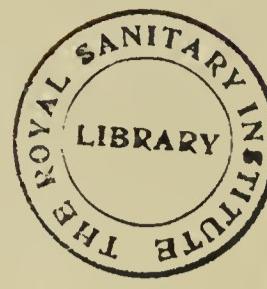


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QUEENSLAND.



ANNUAL REPORT  
OF THE  
HEALTH AND MEDICAL SERVICES  
OF THE  
STATE OF QUEENSLAND  
FOR THE  
YEAR 1953-54.

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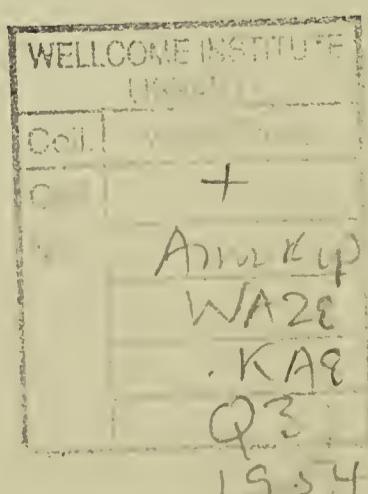
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# ANNUAL REPORT OF THE DIRECTOR-GENERAL OF HEALTH AND MEDICAL SERVICES, 1953-54.

The Honourable the Minister for Health and Home Affairs.

SIR—I have the honour to submit for your information the annual report of the Health and Medical Services Branch of the Department of Health and Home Affairs during the year ended 30th June, 1954.

ABRAHAM FRYBERG,  
M.B., B.S. (Melb.), D.P.H., D.T.M. (Syd.),  
Director-General of Health and  
Medical Services.

## STAFF.

Dr. D. W. Johnson, Deputy Director-General of Health and Medical Services was awarded a World Health Fellowship and is visiting Britain, the Continent, Canada, and the United States. He will study all aspects of public health during his nine months' study tour.

Dr. T. H. R. Mathewson retired as Part-time Pre-School Child Health Officer and was succeeded by Dr. A. E. Paterson. Dr. Mathewson has been associated medically with the Maternal and Child Welfare Service for 16 years. While an Honorary Medical Officer at the Hospital for Sick Children, he was visiting medical officer to the Herschell Street Clinic. He was appointed Director of Maternal and Child Welfare in December, 1937, and continued in that office until December, 1947, when he resigned to enter private practice. He continued his association with the Service in a part-time capacity. His kindly manner endeared him to the staff and children. Dr. Paterson was superintendent of the Hospital for Sick Children from 1922 to 1935 and subsequently was appointed to the visiting staff of that hospital.

Mr. E. W. Haenke retired from the position of Chief Dental Inspector after forty-three years' service in the School Dental Service. He was the first school dentist appointed in Queensland and has travelled extensively throughout the State. As a result of his observations he recommended the introduction of rail clinics which have given such good service to the children of remote areas of Queensland. These clinic cars have served as a pattern for use by overseas and other State authorities. He opened the first dental clinic at Ipswich at his own expense and worked there in his own time until he retired. His work has earned him the esteem of his colleagues in the Public Service, and the practising dental profession. He is succeeded by Mr. G. O. Hosking.

Dr. V. M. O'Hara was appointed School Medical Officer in Brisbane to take the place of Dr. R. F. Condon whose resignation was reported last year.

Dr. V. L. Matchett commenced duties as part-time psychiatrist in the Division of Mental Hygiene in March. Resignations were received from two Assistant Psychologists and one Speech Therapist but the vacancies have been filled. The position of Psychologist rendered vacant by the resignation of Mr. Winship was filled by the appointment of Mr. B. Fenelon.

## INTRODUCTORY REMARKS.

### Vital Statistics.

The failure to lower the infantile mortality rate is a matter for concern. The rate of 25·0 per 1,000 live births as compared with 24·9 last year is the highest of any of the Australian States. Maternity hospitals in this State are well equipped and the Maternal and Child Welfare Service is unequalled in any State of the Commonwealth.

A committee of obstetricians, paediatricians, departmental medical officers, and the Government Statistician has been formed to study all aspects of treatment of the mother and child, and will report after investigating the problem.

The deaths from prematurity show a marked improvement, the number of deaths being 145 out of 769—a decrease of 42. During recent years medical students are required to attend the maternal and child welfare centres, and the principles and practices taught form a basis for the treatment of their patients in later life. This should show itself in a decline in the infantile mortality rate. While there has been a decrease in the inevitable deaths in the metropolitan and subtropical areas, there has been a marked increase in the tropical areas.

The maternal mortality rate continues to decline, the rate of 0·71 per 1,000 live births being the lowest recorded in Queensland.

Diseases of the cardio-vascular system are again the most common cause of death, while malignant disease followed. Research work into the cause of both these diseases is being carried out throughout the world but the results to date are disappointing. Accidents as a cause of death should be considered preventable, and it is hoped that during the coming year an investigation into all types of accidents will be carried out by the Director of Industrial Medicine.

### HANSEN'S DISEASE.

There were 11 admissions to Peel Island during the year, two of these being re-admissions. It is interesting to note that no patient who has taken the sulphone drugs after release, has been re-admitted to Peel Island as a positive Hansen's disease patient. The value of the

sulphone drugs has been definitely proven in Queensland, with the result that patients are now being admitted in an earlier stage of the disease. Seven patients were discharged, and it would appear from the smear results that there will be a number to be discharged within the next few months.

Because of this decrease in population, the shift to the mainland has been deferred.

Approval has been given for improvements at Peel Island, including a new jetty on the western side. This will shorten the distance from Cleveland to Peel Island to approximately 20 minutes, and at the same time provide a safe anchorage in all weathers. A new railway carriage for transport of patients from country districts to Brisbane should be completed within the next few months.

#### SECTION OF FOOD AND DRUGS.

In 1908 it was resolved at a Premiers' Conference that "uniform legislation for the standardisation of Australian manufactured food products is desirable." At that time, Victoria and Queensland were the only two States who had adopted standards regulating the manufacture of food products. Since then other States have introduced legislation for this purpose, but there was wide variation in regard to standards. During the past two years, the Public Health Committee of the National Health and Medical research Council has discussed uniformity in regard to food and drug legislation, and has agreed to standards for many products. The new Food and Drug Regulations which are at present at the printers should be the first major step, as far as Queensland is concerned, towards this goal.

Action has been taken to abolish the "dumping" of milk on pavements. The wholesale distributors have agreed to co-operate and are establishing depots in the various suburbs.

The trade has been advised that in future they must wrap foodstuffs in clean paper—not newspaper.

#### SECTION OF ENVIRONMENTAL SANITATION.

Good relations exist between most Local Authorities and the Department. Some still fail to realise their obligations under the Health Acts. There is a shortage of trained health inspectors. That there are a few willing to take up duty in isolated areas where there are long distances to be travelled, is a factor in this, but there are some Councils who are unwilling to institute

sanitary services or immunization campaigns because it might mean a slight increase in the rates. This shortsighted policy is to be regretted.

#### DIVISION OF MENTAL HYGIENE.

The first section of the Charters Towers Mental Hospital is ready for occupation and patients will be transferred early in the new financial year. This will assist in the relief of overcrowding in the mental hospitals. The main reasons for this overcrowding are:—increase in population through immigration; increasing numbers in the higher age groups prone to senile mental disease; greater willingness on the part of patients to enter mental hospitals due to the removal of the stigma attached to such hospitals; and the unwillingness of the community to support elderly and usually troublesome relatives when free institutions are available. It is departmental policy to house these people in separate institutions run on lines similar to the Eventide Homes.

#### VITAL STATISTICS.

*Population.*—The estimated population of Queensland at 31st December, 1953, was 1,270,381, an increase of 22,491 (or 1.8 per cent.) for the year. The estimated population living in the Greater Brisbane Area was 484,000, an increase of 15,000 (or 3.2 per cent.) during 1953.

It is to be regretted that two-thirds of the increase in population was in the Greater Brisbane area. This is a challenge to Queensland, a State which has prided itself on its lesser degree of urbanization.

The population density per square mile is 1.89 persons for the whole of Queensland, 1,257 persons in the Greater Brisbane Area and 1.17 persons for the rest of the State. Since 38.1 per cent. of the population of the State resides in the Metropolitan Area, it can readily be seen that there is abundant room for population growth in the rest of the State.

*Births.*—During 1953, births registered in Queensland totalled 30,782, an increase of 171 from the previous year, which was the highest number on record. The crude birth rate was 24.4, compared with 25.1 in 1952. The births comprise 15,842 males and 14,940 females, giving a masculinity rate of 106.0, which is slightly above the normal rate of about 105.

TABLE I.  
CRUDE BIRTH RATE (PER 1,000 POPULATION).

	1910.	1920.	1930.	1940.	1948.	1949.	1950.	1951.	1952.	1953.
Commonwealth of Australia ..	26.7	25.5	18.8	18.0	23.1	22.9	23.3	22.9	23.3	22.9
Queensland ..	27.3	27.2	20.8	19.9	24.7	24.2	24.6	24.6	25.1	24.4
New South Wales ..	27.8	26.1	20.6	17.8	22.2	22.1	22.2	21.7	21.9	21.7
Victoria ..	24.5	23.9	18.5	16.8	22.1	21.9	22.6	22.3	23.0	22.5
South Australia ..	26.5	24.7	17.4	16.7	24.1	23.8	24.7	24.3	24.2	24.0
Western Australia ..	28.0	24.7	21.4	19.4	25.1	25.4	25.5	25.4	25.6	25.5
Tasmania ..	29.2	27.3	21.7	20.8	26.4	26.1	25.7	25.1	26.0	24.7
New Zealand ..	26.2	25.1	18.8	21.2	25.5	24.9	24.6	24.4	24.8	24.1
United Kingdom ..	25.0	25.4	16.8	14.6	18.1	17.0	16.1	15.9	15.7	15.9
United States of America ..	n	23.7	18.9	17.9	24.1	24.0	23.4	24.3	24.6	24.7
Canada ..	n	29.4	23.9	21.5	27.0	26.9	26.5	27.1	27.4	27.9

n Not available.

The natural increase (excess of births over deaths) was 19,776, being equal to an increase of 1·6 per cent. of the population.

*Deaths.*—For the year 1953, deaths from all causes totalled 11,006, giving a crude death rate

(deaths per 1,000 mean population) of 8·7, which is lower than the previous year, and still below the crude death rate of the Commonwealth of Australia. Table II. compares the crude death rates of Queensland, other States, and certain overseas countries since 1910.

TABLE II.  
CRUDE DEATH RATE (PER 1,000 POPULATION).

—	1910.	1920.	1930.	1940.	1948.	1949.	1950.	1951.	1952.	1953.
Commonwealth of Australia ..	10·4	10·5	8·6	9·7	10·0	9·5	9·6	9·7	9·4	9·1
Queensland ..	9·7	10·7	8·2	9·0	9·3	8·9	8·8	9·2	9·0	8·7
New South Wales ..	9·9	10·1	8·4	9·4	10·0	9·4	9·6	9·6	9·4	9·2
Victoria ..	11·5	11·1	8·9	10·7	10·4	10·3	10·1	10·3	10·0	9·5
South Australia ..	10·1	10·4	8·5	9·5	10·3	9·5	9·6	10·0	9·5	9·2
Western Australia ..	10·1	10·3	8·8	9·5	9·1	9·0	9·1	9·1	8·7	8·2
Tasmania ..	11·1	9·7	9·8	9·9	9·6	8·8	8·7	8·8	8·5	8·2
New Zealand ..	9·7	10·2	8·6	9·2	9·1	9·1	9·3	9·6	9·3	8·8
United Kingdom ..	14·0	12·9	11·7	14·0	10·9	11·7	11·7	12·6	11·4	11·4
United States of America ..	15·0	13·1	11·3	10·7	9·9	9·7	9·6	9·7	9·6	9·6
Canada ..	n	13·7	10·7	9·8	9·3	9·2	9·0	9·0	8·6	8·6

n Not available.

The causes of death to residents of Queensland during 1953 are shown in Table III.

TABLE III.  
SHOWING CAUSES OF DEATH OF RESIDENTS OF QUEENSLAND, 1953.

Causes of Death.	Males.	Females.	Total.
Tuberculosis of Respiratory System ..	118	33	151
Tuberculosis, other ..	7	4	11
Diphtheria ..	7	5	12
Whooping Cough ..	1	3	4
Tetanus ..	17	3	20
Acute Poliomyelitis ..	5	7	12
Measles ..	1	1	2
Other Infectious and Parasitic Diseases ..	55	30	85
Malignant Neoplasms ..	827	677	1,504
Neoplasms, Benign and Unspecified ..	33	37	70
Hay Fever and Asthma ..	46	25	71
Diabetes Mellitus ..	40	89	129
Other Allergic, Endocrine System, Metabolic, and Nutritional Diseases ..	18	30	48
Pernicious and other Hyperchromic Anaemias ..	7	9	16
Other Diseases of the Blood and Blood-forming Organs ..	16	18	34
Mental, Psychoneurotic and Personality Disorders ..	56	21	77
Vascular Lesions affecting the Central Nervous System ..	634	717	1,351
Other Diseases of the Nervous System and Sense Organs ..	77	61	138
Diseases of the Heart ..	1,832	1,055	2,887
Hypertensive Disease ..	296	276	572
Other Diseases of the Circulatory System ..	129	117	246
Influenza ..	16	20	36
Lobar Pneumonia ..	70	36	106
Bronchopneumonia ..	92	50	142
Other and unspecified Pneumonia ..	46	32	78
Bronchitis ..	71	34	105
Other Diseases of Respiratory System ..	100	53	153
Diseases of Stomach and Duodenum ..	84	30	114
Appendicitis ..	20	10	30
Diseases of Liver, Gallbladder and Pancreas ..	62	62	124
Other Diseases of Digestive System ..	104	99	203
Nephritis and Nephrosis ..	176	149	325
Diseases of Male Genital Organs ..	102	..	102
Other Diseases of Genito-Urinary System ..	53	50	103
Deliveries and Complications of Pregnancy, Childbirth, and Puerperium ..	..	22	22
Diseases of the Skin and Cellular Tissue ..	16	10	26
Diseases of the Bones and Organs of Movement ..	15	26	41
Congenital Malformations ..	97	69	166
Intra-cranial and Spinal Injury at Birth ..	39	34	73
Other Birth Injury ..	16	23	39
Post-Natal Asphyxia and Atelectasis ..	53	28	81
Infections of Newborn ..	17	14	31
Immaturity Unqualified ..	82	63	145
Other Diseases Peculiar to Early Infancy ..	53	45	98
Senility without mention of Psychosis ..	75	113	188
Symptoms Referable to Systems or Organs ..	14	6	20
Ill-defined and Unknown Causes ..	18	8	26
Motor Vehicle Traffic Accidents ..	206	51	257
Accidental Falls ..	94	129	223
Accidental Drowning and Submersion ..	61	6	67
Other Accidents ..	193	56	249
Suicide and Self-Inflicted Injury ..	137	42	179
Homicide and Injury Purposely Inflicted by Other Persons ..	10	4	14
Total from All Causes ..	6,414	4,592	11,006

Diseases of the heart, hypertension, and vascular lesions affecting the nervous system, which are largely due to degenerative changes in the blood vessels, caused 4,810 deaths or 43·7 per cent. of all deaths during the year.

Deaths from tuberculosis (all forms) fell from 216 in 1952 to 162 last year, and deaths from tetanus decreased from 26 to 20. On the other hand deaths from diphtheria increased from 7 in 1952 to 12 in 1953. Deaths from poliomyelitis totalled 13, compared with 100 in 1951, the peak year of the present outbreak, and 26 in 1952.

Deaths from motor vehicle accidents decreased from 275 in 1952 to 257. Accidental deaths of all kinds increased from 788, or 7·1 per cent. of

all deaths in 1952, to 7·2 per cent. of all deaths in 1953.

*Marriages.*—Registration of marriages during the year totalled 9,859, compared with 10,056 in 1952. The marriage rate was 7·8 per thousand mean population, compared with 8·1 in 1952. Marriages of minors during the year totalled 3,757, of whom 650 were males and 3,107 females.

*Infantile Morality.*—The infantile morality rate of Queensland, other States and certain overseas countries is shown in Table IV., while Table V. is a composite one showing the birth rates, infantile morality, and reproduction rates of Queensland compared with the Commonwealth of Australia.

TABLE IV.  
INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS).

	1910.	1920.	1930.	1940.	1948.	1949.	1950.	1951.	1952.	1953.
Commonwealth of Australia ..	74·8	69·1	47·2	38·4	27·8	25·3	24·5	25·2	23·5	23·3
Queensland ..	62·9	63·2	40·0	35·3	28·0	24·7	24·8	25·7	24·9	25·0
New South Wales ..	74·7	69·4	49·8	39·0	30·3	27·3	27·1	26·3	24·5	24·6
Victoria ..	76·9	73·7	46·6	39·5	23·9	21·9	20·1	22·6	22·3	21·2
South Australia ..	70·2	67·3	48·4	35·5	29·7	27·7	24·0	24·5	23·1	20·7
Western Australia ..	78·2	66·0	46·7	44·2	25·6	26·4	27·1	28·7	25·4	23·8
Tasmania ..	101·7	65·5	50·6	35·2	27·7	23·9	23·8	26·6	21·7	22·9
New Zealand ..	67·7	50·6	34·5	30·2	21·9	23·7	23·0	22·8	21·8	20·1
United Kingdom ..	105·0	82·0	63·0	61·0	36·0	34·0	31·0	31·0	29·0	28·0
United States of America ..	n	85·8	64·6	47·0	32·0	31·0	29·0	29·0	29·0	n
Canada ..	n	n	89·3	56·4	44·0	43·0	41·0	38·0	n	n

n Not available.

TABLE V.  
BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA.

	Crude Birth Rate.		Infant Mortality Rate.		Maternal Mortality Rate. (1)		Gross Reproduction Rate. (2)		Net Reproduction Rate. (3)	
	Queens- land.	Aus- tralia.	Queens- land.	Aus- tralia.	Queens- land.	Aus- tralia.	Queens- land.	Aus- tralia.	Queens- land.	Aus- tralia.
1901 ..	28·5	27·2	101·9	103·6	4·15a	3·77a	n	1·74	n	1·39
1911 ..	27·6	27·2	65·4	68·5	5·77	5·03	n	1·71	n	1·42
1921 ..	26·7	25·0	54·1	65·7	5·31	4·72	n	1·51	n	1·31
1931 ..	19·3	18·2	36·6	42·1	5·07	5·49	n	1·14	n	1·03
1934 ..	18·2	16·4	40·6	43·6	4·61	5·76	n	1·03	n	0·94
1939 ..	20·0	17·7	35·5	38·2	5·21	4·09	1·28	1·08	1·16	1·00
1940 ..	19·9	18·0	35·3	38·4	4·70	4·08	1·25	1·10	1·15	1·02
1941 ..	20·8	18·9	39·1	39·7	4·28	3·64	1·30	1·15	1·19	1·07
1942 ..	20·4	19·1	34·8	39·5	3·97	3·59	1·26	1·16	1·18	1·07
1943 ..	22·2	20·7	37·8	36·3	3·83	3·33	1·39	1·26	1·25	1·16
1944 ..	23·1	21·0	31·3	31·3	3·02	2·85	1·45	1·29	1·32	1·20
1945 ..	24·8	21·8	29·8	29·4	2·47	2·15	1·53	1·34	1·39	1·24
1946 ..	24·8	23·7	29·3	29·0	2·26	1·85	1·55	1·46	1·42	1·33
1947 ..	25·7	24·1	30·8	28·5	1·62	1·87	1·64	1·49	1·54	1·36
1948 ..	24·7	23·1	28·0	27·8	1·47	1·40	1·60	1·45	1·51	1·33
1949 ..	24·2	22·9	24·7	25·3	1·44	1·21	1·57	1·46	1·49	1·33
1950 ..	24·6	23·3	24·8	24·5	1·45	1·09	1·61	1·49	1·52	1·42
1951 ..	24·6	22·9	25·7	25·2	1·18	1·05	1·64	1·49	1·55	1·21
1952 ..	25·1	23·3	24·9	23·8	1·03	0·94	1·69	1·55	1·59	1·47
1953 ..	24·4	22·9	25·0	23·3	0·71	..	1·67	n	1·57	n

a Figures for 1901 not available. Figures shown are for 1902.

n Not available.

(1) *Maternal Mortality Rate.*—Deaths from puerperal causes per 1,000 live births.

(2) *Gross Reproduction Rate.*—Represents the number of female children who would be born on the average to women living right through the child bearing years, if the conditions on which the rate is based continue.

(3) *Net Reproduction Rate.*—Is the gross reproduction rate corrected for deaths of females from birth to the end of the child bearing period. It is a more accurate index than the gross reproduction rate. Unless it exceeds unity the population is not replacing itself.

The infantile mortality rate increased slightly from 24·9 in 1952 to 25·0 in 1953.

The net reproduction rate is higher than the Australian average, whilst the maternal mortality rate declined from 4·15 in 1901 to 0·71 in 1953.

If the crude death rate had remained at the level prevailing in 1900, almost 3,800 additional deaths would have occurred in Queensland during 1953. In addition, the expectation of life has been increased by fifteen years during that period.

## SECTION OF PUBLIC HEALTH SUPERVISION.

Deputy Director-General of Health and Medical Services: D. W. JOHNSON, M.B., B.S.  
(Syd.), D.T.M. & H. (Syd.).

Acting Chief Inspector of Food and Drugs: W. H. KELLY.

Chief Sanitary Inspector: W. D. PRYOR.

Secretary to Director-General of Health and Medical Services: T. O'SHEA,  
M.R.San.I.

Welfare Officer: Mrs. V. WILLS.

### Inspectors in Charge of District Offices:

Cairns: B. M. KEEFFE  
Rockhampton: R. WOODLEY  
Townsville: H. P. LOWES

Toowoomba: C. J. MURRAY  
Mackay: R. A. BURKE

## SECTION OF COMMUNICABLE DISEASES.

Tables VI. and VII. show the incidence of notifiable diseases in the metropolitan and extra-metropolitan areas respectively for 1953-54, while Table VIII. shows the same information for the calendar year 1953.

TABLE VI.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1953, TO 30TH JUNE, 1954.  
METROPOLITAN AREA (POPULATION AT 1ST JULY, 1953—480,000).

Diseases.	Months.												Total 1953- 1954.	
	1953.						1954.							
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.		
Anchylostomiasis ..	..	5	2	..	..	..	..	..	..	..	..	..	7	
Anthrax ..	..	..	..	..	1	..	..	..	..	..	..	..	1	
Bilharsiasis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Diarrhoea (Infantile)	52	19	21	21	21	24	34	20	51	17	15	12	307	
Diphtheria ..	13	5	3	1	2	5	1	2	2	2	3	3	42	
Dysentery, Amoebic ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Dysentery, Bacillary ..	4	2	1	4	7	1	12	5	1	1	2	3	43	
Encephalitis Lethargica ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Erythema Nodosa ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Filariasis ..	..	..	..	..	..	..	..	..	..	..	..	..	5	
Lead Poisoning ..	..	..	..	..	..	..	..	1	..	..	4	..	..	
Leprosy ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever) ..	..	1	1	2	..	..	..	..	1	1	1	1	8	
Malaria ..	..	..	..	..	..	1	..	..	..	..	1	..	2	
Meningitis, Cerebro-spinal ..	3	..	..	1	1	..	..	1	1	..	2	4	13	
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Plague, Bubonic or Oriental ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Pleural Effusion ..	..	..	..	..	1	..	..	..	..	..	..	..	1	
Poliomyelitis, Acute Anterior ..	4	..	1	..	..	..	..	2	6	6	5	4	28	
Puerperal Fever ..	..	..	..	..	..	..	..	1	..	..	1	..	2	
Puerperal Pyrexia ..	1	..	9	1	..	1	..	..	..	..	..	..	12	
Q. Fever ..	..	4	1	4	..	1	..	..	2	1	2	3	18	
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Rheumatic Fever ..	..	..	..	..	..	..	..	..	2	6	1	5	14	
Rubella ..	..	7	2	2	..	1	..	..	..	..	1	..	13	
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever or Scarlatina ..	..	11	10	48	4	77	34	11	10	3	7	5	18	
Smallpox (including Amaas or Alastrim) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tuberculosis (all forms) ..	55	23	30	36	28	33	38	32	27	26	33	36	397	
Tetanus ..	..	1	2	4	1	3	..	1	1	3	..	1	17	
Typhoid Fever (including Paratyphoid Fevers) ..	2	7	3	..	..	..	1	..	..	1	..	1	15	
Typhus Fever (Scrub, Tick, Murine) ..	..	..	1	1	1	2	1	..	..	1	..	..	7	
Undulant (Malta) Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Yellow Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
<b>Totals ..</b>	<b>146</b>	<b>84</b>	<b>126</b>	<b>79</b>	<b>140</b>	<b>106</b>	<b>98</b>	<b>75</b>	<b>97</b>	<b>72</b>	<b>76</b>	<b>91</b>	<b>1,190</b>	

Acute Rheumatism (including Rheumatic Fever and Chorea) declared a notifiable disease under "The Health Acts, 1937 to 1949" with respect to the whole of the State of Queensland in Government Gazette of 13/3/54.

TABLE VII.

COMMUNICABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1953, TO 30TH JUNE, 1954.  
EXTRA-METROPOLITAN AREA (POPULATION AT 1ST JULY, 1953—785,571).

Diseases.	Months.												Total 1953- 1954.	
	1953.						1954.							
	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.		
Anchylostomiasis ..	1	14	2	13	5	..	2	..	1	..	1	..	39	
Anthrax ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Bilharziasis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Coastal Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Diarrhoea (Infantile)	4	5	7	6	4	4	4	2	14	11	4	..	65	
Diphtheria ..	34	7	7	4	4	1	3	5	6	1	9	5	86	
Dysentery, Amoebic ..	..	..	1	1	..	..	..	..	..	..	..	..	2	
Dysentery, Bacillary ..	..	..	..	4	3	..	2	1	2	2	1	2	17	
Encephalitis Lethargica ..	..	..	..	..	..	1	..	..	1	2	..	..	4	
Erythema Nodosum ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Filariasis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Lead Poisoning ..	2	..	..	..	1	..	..	..	3	..	..	..	6	
Leprosy ..	..	2	1	2	3	3	..	..	2	..	..	..	13	
Leptospirosis (Weil's Disease, Paraweil's Disease, Seven-day Fever) ..	..	6	7	..	3	3	6	..	..	7	6	10	8	
Malaria ..	..	..	..	1	..	..	..	..	1	1	..	..	3	
Meningitis, Cerebro-spinal ..	2	2	2	2	2	..	..	..	2	..	2	3	17	
Mossman Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Plague, Bubonic or Oriental ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Pleural Effusion ..	..	..	..	..	..	..	..	..	..	1	2	..	3	
Poliomyelitis, Acute Anterior ..	5	5	1	2	..	..	2	3	10	5	1	6	40	
Puerperal Fever ..	..	..	..	1	..	..	..	..	..	1	2	..	4	
Puerperal Pyrexia ..	..	..	4	2	..	..	1	1	5	1	..	..	14	
Q. Fever ..	2	1	..	..	1	..	..	..	..	..	..	2	6	
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Rheumatic Fever ..	..	..	..	..	..	..	..	..	1	3	5	6	15	
Rubella ..	..	1	3	..	1	2	1	..	..	..	1	..	9	
Sarina Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever or Scarletina ..	10	7	9	12	14	4	3	9	12	8	7	4	99	
Smallpox (including Amaas or Alastrim) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tuberculosis (all forms) ..	36	30	41	32	35	21	31	41	50	30	28	49	424	
Tetanus ..	..	1	2	3	3	..	1	1	1	1	2	3	18	
Typhoid Fever (including Paratyphoid Fevers) ..	3	6	2	1	..	..	..	..	..	2	..	..	14	
Typhus Fever—	Scrub ..	5	2	4	..	2	1	..	1	1	2	..	21	
Tick ..	..	..	..	..	..	..	..	..	1	..	..	..	1	
Murine ..	..	..	..	3	2	..	2	..	..	..	..	..	8	
Undulant (Malta) Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	4	
Yellow River ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Totals ..	111	90	86	92	83	43	52	64	120	77	76	94	988	

Acute Rheumatism (including Rheumatic Fever and Chorea) declared a notifiable disease under "The Health Acts, 1937 to 1949" with respect to the whole of the State of Queensland in Government Gazette of 13/3/54.

TABLE VIII.

NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASES),  
SECTION 29 OF "THE HEALTH ACTS, 1937-1949," DURING THE CALENDAR YEAR 1953.

Disease.	Cases Reported on Prescribed Form.			
	Metropolis.	Outside Areas.	Total Whole State, 1953.	Total Whole State, 1952.
Anchylostomiasis ..	..	8	77	85
Anthrax ..	..	1	..	1
Bilharziasis ..	..	..	..	..
Coastal Fever ..	..	..	..	..
Cholera ..	..	..	..	..
Diphtheria ..	..	70	117	187
Diarrhoea (Infantile) ..	..	342	82	424
Dysentery, Amoebic ..	..	..	5	5
Dysentery, Bacillary ..	..	38	16	54
Encephalitis Lethargica ..	..	..	1	1
Erythema Nodosa ..	..	..	..	..
Filariasis ..	..	..	..	..
Lead Poisoning ..	..	1	10	11
Leprosy ..	..	..	13	13
Leptospirosis (including Weil's Disease, Paraweil's Disease, Seven-day Fever) ..	..	8	101	109
Malaria ..	..	3	8	11
Meningitis, Cerebro-spinal ..	..	14	19	33
Mossman Fever ..	..	..	..	..
Plague, Bubonic or Oriental ..	..	..	..	..
Pleural Effusion ..	..	2	..	2
Poliomyelitis, Acute anterior ..	..	45	153	198
Puerperal Fever ..	..	1	2	3
Puerperal Pyrexia ..	..	26	20	46
Q. Fever ..	..	18	8	26
Relapsing Fever ..	..	..	..	..
Rheumatic Fever ..	..	..	..	..
Rubella ..	..	13	8	21
Sarina Fever ..	..	..	..	..
Scarlet Fever or Scarlatina ..	..	210	89	299
Smallpox (including Amaas or Alastrim) ..	..	..	..	..
Tetanus ..	..	18	19	37
Tuberculosis (all forms) ..	..	449	455	904
Typhoid Fever (including Paratyphoid Fevers) ..	..	15	21	36
Typhus Fever (including Rural and Urban forms and Japanese River Fevers) ..	..	7	32	39
Undulant (Malta) Fever ..	..	..	1	1
Yellow Fever ..	..	..	..	..
<b>Totals ..</b>	<b>..</b>	<b>1,289</b>	<b>1,257</b>	<b>2,546</b>
				<b>2,804</b>

The State has been free from any epidemics of communicable diseases. The number of notifications received decreased for most diseases, and any increases were not significant.

*Anthrax.*—One case of anthrax was notified from Brisbane. The last case of anthrax reported in Queensland was in December, 1950, from the extra-metropolitan area. The source of infection in the present case was dead wool sent from New South Wales. Action was taken by the Department of Agriculture and Stock to see that all wool in store was scoured and there was a prohibition against wool from New South Wales coming into Queensland except under rigid conditions.

*Diarrhoea (Infantile) and Bacillary Dysentery.*—Notifications of these allied diseases decreased from 620 to 434 during the past year. The majority of notifications came from the metropolitan area. This disease is spread in the same way as poliomyelitis and the only hope of its control, like that of poliomyelitis, is by the development of a vaccine which can be used prophylactically. The work being carried out by the Queensland Institute of Medical Research might lead to such a result. Every effort should be directed to reducing the number of infections by a high standard of hygiene.

*Diphtheria.*—The immunization campaigns which were intensified by the Local Authorities throughout the State, following the increase in the number of cases notified in 1952-53, produced results, 128 cases being reported as against 211 in the previous year. Diphtheria is a disease which is preventable, and every effort must be made by the Local Authority to educate parents that this is so.

*Poliomyelitis.*—The accepted cases of poliomyelitis continue to decline since the 1950-51 epidemic when the number of cases was 824. The following year, the accepted cases numbered 359, while the incidence last year was 242 accepted cases. For the year 1953-54, there were 68 accepted cases, which is still higher than the average annual number of 30 notifications in previous inter-epidemic periods. The increased incidence of poliomyelitis during inter-epidemic periods has been noted throughout the world.

Table IX. shows the monthly incidence of the disease during 1953-54, and since 1st October, 1950, according to whether paralytic or non-paralytic, and whether occurring in the metropolitan area or in other parts of the State.

TABLE IX.

SHOWING MONTHLY NOTIFICATIONS OF POLIOMYELITIS IN QUEENSLAND, 1953-54, AND SINCE 1-10-50, DISSECTED PARALYTIC, NON-PARALYTIC, AND WHETHER METROPOLITAN OR EXTRA-METROPOLITAN.

		Accepted Cases.									Negative.	Total Notifications.*		
		Metropolitan.			Extra-Metropolitan.			Whole State.						
		P.	N-P.	T.	P.	N-P.	T.	P.	N-P.	T.				
<b>1953—</b>														
July	..	2	2	4	4	1	5	6	3	9	..	9		
August	..	..	..	..	5	..	5	5	..	5	1	6		
September	..	1	..	1	..	1	1	1	1	2	6	8		
October	..	..	..	..	2	..	2	2	..	2	1	3		
November	..	..	..	..	..	..	..	..	..	..	2	2		
December	..	..	..	..	..	..	..	..	..	..	1	1		
<b>1954—</b>														
January	..	..	..	..	2	..	2	2	..	2	..	2		
February	..	..	1	1	2	3	..	3	4	1	5	..		
March	..	..	3	3	6	7	3	10	10	6	16	4		
April	..	..	4	2	6	3	2	5	7	4	11	3		
May	..	..	4	1	5	1	..	1	5	1	6	2		
June	..	..	4	..	4	6	..	6	10	..	10	2		
Total 1953-54	..	19	9	28	33	7	40	52	16	68	22	90		
Total 1-10-50 to 30-6-53		373	72	445	820	150	970	1,193	222	1,415	195	1,610		
Total 1-10-50 to 30-6-54		392	81	473	853	157	1,010	1,245	238	1,483	217	1,700		

P = Paralytic.

N-P = Non Paralytic.

T = Total cases.

Table X. shows the age distribution in 1953-54, and also the age distribution since 1st October, 1950. It is interesting to note that in the past year, the ratio of the cases under the age of nine years to the over-nine age group incidence

is approximately the same as during the epidemic period between 1st October, 1950, and 30th June, 1953. This is of interest as it might be expected that in the inter-epidemic period the highest incidence would be in the age group 1-4 years.

TABLE X.

POLIOMYELITIS IN 1953-54 SHOWING AGE DISTRIBUTION, TOGETHER WITH AGE DISTRIBUTION SINCE 1-10-50.

	Age Group.						Males.	Females.	Persons.	Total 1-10-50 to 30-6-54.
0- 1 years	..	..	..	..	..	..	2	2	4	52
1- 4 years	..	..	..	..	..	..	6	7	13	254
5- 9 years	..	..	..	..	..	..	8	5	13	342
10-14 years	..	..	..	..	..	..	8	6	14	230
15-19 years	..	..	..	..	..	..	4	3	7	200
20-24 years	..	..	..	..	..	..	4	1	5	164
25-29 years	..	..	..	..	..	..	2	2	4	118
30-34 years	..	..	..	..	..	..	2	3	5	67
35-39 years	..	..	..	..	..	..	1	Nil	1	29
40-44 years	..	..	..	..	..	..	Nil	Nil	Nil	6
45-49 years	..	..	..	..	..	..	2	Nil	2	13
50-54 years	..	..	..	..	..	..	Nil	Nil	Nil	5
55 years and over	..	..	..	..	..	..	Nil	Nil	Nil	3
All Ages	..	..	..	..	..	..	39	29	68	1,483

It is interesting to note that the five deaths which occurred during the past year occurred in the extra-metropolitan area. This is understandable as the resistance of rural dwellers is not as high as that of people living in cities, as they do not have the same opportunity of becoming infected with only slightly virulent organisms. It is also worthy of note that two of these patients were transferred to larger centres because of the desire of relatives to obtain specialist treatment, and I have impressed on doctors in country areas that it is unwise to transfer patients in the acute stage because the fatigue induced might result in a comparatively mild case being transformed into a bulbar paralysis.

Gamma globulin is now available in reasonable amounts for the prophylactic treatment of poliomyelitis, and will be used in the hope that it will prevent the onset of paralysis. It is not available in sufficient quantities to immunise the community at large, and a list of priorities has been accepted, the highest priorities being pregnant women who are contacts, babies born to women who are suffering from acute poliomyelitis, children who require urgent ear, nose, throat, and

dental operations during an epidemic, and the household contacts of a patient suffering from poliomyelitis, particularly if an intramuscular injection is required to be given. I am of the opinion that its use is doubtful, and that it is not the answer to the prevention of poliomyelitis. Wide-scale experiments are being carried out under the National Foundation for Infantile Paralysis of the United States with an inactivated vaccine, but it is too early to evaluate its efficiency. Some authorities in that country are not optimistic, and are continuing their researches into a vaccine of low-virulence which will protect against infection by the three known viruses. It would appear that the development of a vaccine which will provide an immunity for a reasonable period, is the only hope of control of this disease, and it is anticipated that such a vaccine will be produced in the not too-distant future.

Gamma globulin is also available for the prevention of measles, and infectious hepatitis. Children between the ages of six months and three years, pregnant women, and persons debilitated or ill with other infections, who have been exposed to a case, and have had no history

TABLE XI.  
DEATHS FROM POLIOMYELITIS—1-10-50 TO 30-6-54.  
(The figures for the period 1-10-50 to 30-6-53 are shown in brackets).

	Age Group.		Metropolitan.	Extra-Metropolitan.	Whole State.	Cases.	Death Rate*.
0- 4 years	..	..	3 (3)	9 (8)	12 (11)	306 (289)	3.92 (3.81)
5- 9 years	..	..	6 (6)	12 (11)	18 (17)	342 (329)	5.26 (5.17)
10-14 years	..	..	5 (5)	11 (11)	16 (16)	230 (216)	6.96 (7.41)
15-19 years	..	..	4 (4)	16 (16)	20 (20)	200 (193)	10.0 (10.36)
20-24 years	..	..	3 (3)	18 (18)	21 (21)	164 (159)	12.8 (13.21)
25-29 years	..	..	7 (7)	13 (12)	20 (19)	118 (114)	16.95 (16.67)
30-34 years	..	..	5 (5)	7 (7)	12 (12)	67 (62)	17.91 (19.35)
35-39 years	..	..	1 (1)	6 (5)	7 (6)	29 (28)	24.14 (21.43)
40 years and over	..	..	1 (1)	5 (4)	6 (5)	27 (25)	22.22 (20.00)
All Ages..	..	..	35 (35)	97 (92)	132 (127)	1,483 (1,415)	8.9 (8.98)

\* Per 100 accepted cases.

of a previous attack of measles, may be given gamma globulin, and it is also available to household contacts of a diagnosed case of infectious hepatitis with no history of a previous attack.

*Tuberculosis.*—The opening of tuberculosis annexes of 48 beds each, attached to the Cairns and Townsville Hospitals, will improve still further the service available to patients. Medical officers with special training in tuberculosis will be appointed to these centres. In addition to carrying out treatment of patients at the hospitals, these officers will be available for consultation with local practitioners. They will also carry out preventive procedures including B.C.G. vaccination. Re-survey of coloured residents of the Torres Straits Islands, and the Gulf Country, will be undertaken when the medical officer appointed to the Thursday Island district takes up duty.

There has been a decline in the number of notifications received for tuberculosis, 821 being reported as against 943 in 1952-53. These figures would be a fair indication of the number of cases discovered because a pension is now paid to persons known to be suffering from an active form of the disease which will benefit by treatment, and this in turn induces them to undergo medical attention.

It is known that, following the commencement of a prevention campaign, there is usually a successive increase in the number of tuberculosis notifications received annually for a number of years. The campaign in this State was commenced only five years ago and it is hoped that the turning point has been reached. The decrease in the number of deaths from tuberculosis is a reflection of the efficient treatment being given to patients.

*Typhoid fever.*—The number of cases of typhoid fever occurring is an indication of the state of the public health. There were 15 cases of typhoid fever notified from the metropolitan area—an increase of 11—and 13 notified from the country which is the same as for 1952-53. The occurrence of typhoid fever is an indication of the standard of hygiene, and the large number of cases in the metropolitan area shows the necessity for the Brisbane City Council to push forward its sewerage scheme to completion as quickly as possible.

Of the extra-metropolitan cases, three occurred at Gladstone, two at Bundaberg, and the rest singly throughout the State.

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**HANSEN'S DISEASE (LEPROSY).**

## (1) HANSEN'S DISEASE IN THE WHITE POPULATION.

## PEEL ISLAND LEPROSARIUM.

Medical Superintendent: M. H. Gabriel, M.B., B.S.(Qld.), A.A.C.I.

## STATISTICS.

TABLE XII.

	1951-52.			1952-53.			1953-54.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Population at 1st July, 1953 ..	39	6	45	36	7	43	20	3	23
Admitted .. .. ..	6	1	7	1	..	1	7	4	11
Discharged .. .. ..	5	..	5	17	4	21	6	1	7
Died .. .. ..	4	..	4	..	..	..	3	..	3
Population at 30th June, 1954 ..	36	7	43	20	3	23*	18	6	24†
Increase .. .. .. ..	..	1	..	..	..	..	..	3	1
Decrease .. .. .. ..	3	..	2	16	4	20	2	..	..

\* Includes one patient who was given special permission to remain at Peel Island.

† The total of 24 persons at 30th June, 1954, includes one male and one female, who have been granted special permission to remain in the institution, though eligible for discharge. They are unable to look after themselves because of physical disabilities and they have no one to care for them. There are, therefore, only 22 patients in whom the disease is active—the same number as at 30th June, 1953.

**Admissions.**—There were 11 admissions during the year. This is the largest number of admissions in any year since 1948-49, when there were 13 admissions. Of the eleven admissions, seven were males and four were females. Nine of the admissions were patients admitted for the first time, and two were re-admissions. Of the new admissions, four are early cases, and it is gratifying to find that these, and some of the advanced cases, were diagnosed by recent graduates of the University of Queensland Medical School, where lectures and practical instruction on Hansen's disease have been given each year for some years by medical officers of the department. On the other hand, some of the advanced cases have been under medical care for periods ranging up to nine years without the correct diagnosis being made. Apparently there is still insufficient awareness amongst medical practitioners that Hansen's disease does occur in the white population of Queensland, and that every suspicious neurological or dermatological case should be tested for Hansen's disease.

Of the re-admissions, one was an arrested case needing institutional care, and the other was a case which had gone on to arrest on chaulmoogra oil derivatives some years ago. She had not at any time taken sulphone or thiosemicarbazone drugs.

**Discharges.**—Six male patients and one female patient were discharged during the year. The conditions for discharge remain unaltered, that is to say, patients must obtain twelve consecutive negative smears taken at monthly intervals, or they may be released after six consecutive negative smears if a skin biopsy proves negative. No patients availed themselves of the biopsy during the year.

**Deaths.**—There were three deaths during the year, all males and all old patients.

**Medical Treatment.**—The treatment of Hansen's disease is continuing with the sulphone drugs, promin, diasone, sulphetrone, and diamino-diphenyl sulphone (dapsone), with the thiosemicarbazone drug, thiacetazone, and with isoniazid, and para-amino-salicylic acid and its salts.

There has been a gratifying number of discharges again this year. Of the discharged patients, one was treated with promin, one with thiacetazone, and five with dapsone. Most of them received isoniazid or sodium para-amino-salicylate or both, in addition to the drugs already listed, and it is felt that these two drugs are a valuable addition to treatment.

**Visits.**—Requests were received from medical men during the year to visit Peel Island in order to discuss the disease with the medical superintendent. Such visits are encouraged, as a knowledge of the clinical signs of Hansen's disease enables early diagnosis. Five parties of medical students, 40 in all, visited Peel Island for clinical demonstrations of Hansen's disease, and one student spent several days to complete a class project on Hansen's disease.

**Dental Unit.**—During the year, a dentist from the Brisbane Dental Hospital made twenty visits (one of them of three days' duration), and carried out all classes of dental work for the patients. This is a reflection of the large amount of dental work needed by the newly admitted patients.

**Optometrical Unit.**—The official optometrist made four visits during the year to carry out optometrical tests on the patients and to prescribe and dispense spectacles where necessary.

**Patients sent to Brisbane General Hospital for Specialist treatment.**—During the year, the General Superintendent of the Brisbane General

Hospital (Dr. A. D. D. Pye) again made accommodation available at "Wattlebrae" Infectious Diseases Hospital for patients from Peel Island who were in need of specialist treatment. A total of 13 patients was accommodated during the year, and of these, four made two visits, and one made ten visits.

*Laboratory of Microbiology and Pathology.*—Extensive use was made again this year of the facilities provided by the Laboratory of Microbiology and Pathology. The following figures will show the numbers and types of specimens submitted for examination.

TABLE XIII.

Specimen.	Number.
Venous blood for full blood examination ..	362
Tissue smears (for <i>M. leprae</i> ) ..	309
Venous blood for serological tests ..	12
Venous blood for ABO and Rh grouping ..	11
Venous blood for blood sugar estimation ..	5
Urine specimens for chemical and microscopical examination .. .. ..	312
Miscellaneous specimens .. .. ..	5
Total .. .. ..	1,016

*Administration.*—It has been decided to defer the transfer of the institution to Burpengary, pending further observation of the incidence of Hansen's disease amongst the white population of Queensland. In the meantime, very considerable improvements are to be made at Peel Island for the benefit of the patients. Up to the date of this report approval has been given for the building of a new jetty on the western side of the Island, and construction is to commence in October, 1954, whilst officers of the Department of Public Works have made an inspection and submitted estimates for essential repairs, plumbing, and painting of buildings at the institution.

*Buildings, Grounds, Roads, &c.*—Maintenance work has been carried out on all buildings. Supervision must be constant because of white ants.

Increased storage facilities have given relief from the worry of shortage of water, and laundry facilities have been extended by the installation of a new boiler.

Attention has been given to the roads of the island, which are now in a reasonable state of repair.

Work on the new jetty on the western side of the island is to be continued, and being protected from the south-easters, will, when completed, enable launches to tie up in bad weather. This will remove a great worry from the administration as it will enable stores to be brought in, and sick patients to be taken off at all times.

*Launch Service.*—The launch service has now been carried on under contract for over two years and this arrangement has been most satisfactory. A disastrous cyclone on 20th February, 1954, severely damaged both the departmental launches, one so extensively that it was sold for salvage. The other launch is being repaired and should soon be back in service.

*Patients.*—The continuing high-discharge rate is maintaining a cheerful outlook amongst most of the patients, a circumstance which has impressed all of the official visitors most favourably. There is an ever-increasing interest by patients in their cottages and their surroundings, and some of the lawns and gardens are a credit to the patients responsible.

The blinded ex-servicemen (of whom there were only two) had a "talking-book" machine made available to them, together with a library of thirty complete "books." This has been a most welcome source of entertainment for them and thanks are due to the Red Cross Society for this very fine gift.

The benefits received by patients are substantially unchanged from those listed in previous reports.

Patients at present on the payroll are: (a) truck driver, (b) barber, (c) painter, (d) carpenter, (e) two groundsmen, and (f) seamstress. Their work has been satisfactory and helpful to the institution while at the same time it keeps them occupied.

*Patients' Visitors.*—Visiting days and arrangements remain unchanged this year. The substantial number of new admissions has caused somewhat of an increase in the number of visitors but the numbers are still well within the capacity of the transport available.

The Reverend Canon W. P. B. Miles of the Church of England, Reverend Father G. Nolan of the Roman Catholic Church, and the Reverends Pashen, McCarthy, and Calder Allen of the Presbyterian Church, frequently visited the Island and conducted divine service for the patients.

The Salvation Army visited as previously. These good people always bring presents for the patients. They were one of the first organisations to make regular visits to Peel Island and have been very consistent visitors ever since.

The Relatives and Friends' Association once again held a Christmas party when sixty members and relatives arrived.

The Toowong Sub-branch of the R.S.S.A.I.L.A. also provided a Christmas concert, and on Anzac Day, twenty members arrived to conduct an Anzac service at the flagpole near the Recreation Hall.

The Red Cross Handcraft Service continues to provide the patients with handcraft materials, but it is with regret that it was learned Mr. E. Ward was forced to discontinue

his visits as a handcraft instructor because of his ill-health. Mrs. G. M. Melville from the Red Cross Society made a visit in May, 1954, and as a result of this visit it is hoped that a new instructor may be obtained.

*General Remarks and Summary.*—The year has been a most successful one. The number of patients remains the same despite the largest number of admissions for five years.

The decision that the institution remain at Peel Island and that construction of a new institution at Burpengary be deferred has

meant that plans have had to be put in hand to make many improvements at Peel Island. Already there is a good serviceable motor truck, and the coming year will see repairs made to buildings, a start made on a new jetty, and possibly a big improvement to the electric power plant. It is emphasised the removal of the Peel Island institution to Burpengary has only been deferred and will be reviewed at the end of this year. If the number of discharges continues as it has during the past few years we can look forward to the day when Hansen's disease will no longer be endemic in Queensland.

#### HANSEN'S DISEASE IN THE ABORIGINAL POPULATION.

##### FANTOME ISLAND LEPROSARIUM.

There was an increase in the number of coloured patients admitted to the Fantome Island Leprosarium.

The treatment of the patients is under the control of the Medical Officer, Palm Island, who makes regular visits and is on call at all times by wireless for emergencies. The nursing of the patients is carried out by members of the Franciscan Missionaries of Mary. One cannot speak too highly of the excellent work of these Sisters who have given up so much to attend to the needs of the patients at Fantome Island. Patients requiring specialist treatment are transferred to the Townsville Hospital.

Table XIV. shows the population changes at Fantome Island for the past year.

TABLE XIV.

—	Males.	Females.	Total.
Inpatients at 1st July, 1953	42	19	61
Admitted .. .. ..	12	5	17
Discharged .. .. ..	9	3	12
Died .. .. ..	1	..	1
	44	21	65

The number of discharges was 12 as against 16 in the previous year, with one death. There were 65 patients as at 30th June, 1954—an increase of four. This does not give a true indication of the successful results of sulphone treatment, as nine patients who have given the necessary negative smears for release under supervision, because of ulcerations of the legs have been retained so as to continue treatment. This has been found necessary in the interest of the patients, as better results have been obtained with the treatment at Fantome Island as against those obtained elsewhere.

### SECTION OF ENTHETIC DISEASES.

Government Medical Officer and Medical Officer in Charge: GEOFFREY HAYES, M.B., Ch.M. (Syd.).

Medical Officer: BEATRICE WARNER, M.B., B.S.(Melb.).

During the year, 740 cases were notified to the Department—as usual, identification numbers being used and not names. This is a decrease of 17 below the notifications for the previous year.

This represents an incidence of 0·578 per 1,000 mean population as compared with 0·607 for the previous year. Of these notifications, 129 were females, and 611 males, as compared with 122 females, and 635 males in the previous year.

Five hundred and fifteen patients were diagnosed as suffering from gonorrhoea, and 114 from syphilis, as compared with 542, and 131 respectively for the previous year. Eighty-six cases of venereal warts represented an increase of 23, but cases of early syphilis (primary and secondary) showed a satisfactory decline from 78 in the previous year to 57.

Table XV. dissects the incidence of notified venereal disease in Queensland for the past twelve months.

TABLE XV.  
NOTIFIED VENEREAL DISEASE IN QUEENSLAND, 1953-54.

		Metropolitan.		Outside Centres.		Whole State.		Total.
		Males.	Females.	Males.	Females.	Males.	Females.	
<b>Gonorrhoea—</b>								
Unspecified .. .. ..		1	4	8	7	9	11	20
Acute .. .. ..	311	47	84	21	395	68	463	
Sub-acute .. .. ..	4	..	1	..	5	..	5	
Chronic .. .. ..	..	8	3	11	3	19	22	
Ophthalmia .. .. ..	..	..	1	2	1	2	3	
Vulvo-vaginitis.. .. ..	..	2	..	..	..	2	2	
	316	61	97	41	413	102	515	
<b>Syphilis—</b>								
Unspecified .. .. ..	1	1	..	1	1	2	3	
Primary .. .. ..	33	2	5	2	38	4	42	
Secondary .. .. ..	10	1	2	2	12	3	15	
Tertiary .. .. ..	6	3	6	2	12	5	17	
Latent .. .. ..	14	4	2	2	16	6	22	
Neuro .. .. ..	5	3	..	..	5	3	8	
Pre-natal (cong.) .. ..	2	1	1	3	3	4	7	
	71	15	16	12	87	27	114	
<b>Soft Sore .. .. ..</b>								
	23	..	2	..	25	..	25	
<b>Venereal Warts .. .. ..</b>								
	86	..	..	..	86	..	86	
<b>Ulcerative Granuloma .. .. ..</b>								
	..	..	..	..	..	..	..	
<b>Sub-acute Gonorrhoea and Ophthalmia .. .. ..</b>								
	..	..	..	..	..	..	..	
	109	..	2	..	111	..	111	
	496	572	76	115	168	53	611	740
				740				

Notifications from centres outside Brisbane, shown in Table XVI., give some idea of the distribution.

As was the case in the previous year, the far north (Townsville and Thursday Island) and the far west (Cunnamulla) would appear

on notification figures to have a greater incidence than elsewhere. There are, however, certain anomalies which might make one doubt the value of official notification figures. A few years ago I had occasion to point out that virtually no cases were being notified from Thursday

Island, whereas in the past two years, this area has ranked second only to Brisbane for numbers of notifications. This is due to the interest taken in the problem of venereal disease by the Medical Superintendent of the Thursday Island Hospital who has reported all cases of venereal disease found in that area. Also, with the exception of three cases at Dalby, Cunnamulla with 11 cases is the only town west of Toowoomba, and on or adjacent to the main Western Line to notify any cases. One rather has the feeling that there may be many more cases occurring than are being notified.

TABLE XVI.

CENTRES OF NOTIFICATION OF VENEREAL DISEASE OUTSIDE THE METROPOLIS.

Centre.	Males.	Females.	Total.
Aramac	..	..	1
Babinda	..	..	1
Beaudesert	..	..	3
Bundaberg	..	..	4
Cairns	..	..	4
Charters Towers	..	..	1
Cherbourg	..	..	4
Clonecurry	..	..	1
Cooroy	..	..	1
Cunnamulla	..	..	11
Dalby	..	..	2
Gatton	..	..	1
Gladstone	..	..	1
Goondiwindi	..	..	2
Gordonvale	..	..	1
Ipswich	..	..	5
Kileoy	..	..	1
Mackay	..	..	4
Maryborough	..	..	1
Mount Isa	..	..	3
Mount Morgan	..	..	1
Murgon	..	..	2
Muttaburra	..	..	1
Proserpine	..	..	1
Rockhampton	..	..	9
Southport	..	..	1
Surfer's Paradise	..	..	1
Toowoomba	..	..	2
Townsville	..	..	3
Thursday Island	..	..	36
Warwick	..	..	1
Wondai	..	..	1
Woorabinda	..	..	5
Yeppoon	..	..	1
	115	53	168

Table XVII. shows the number of venereal disease notifications since 1914, and the incidence per 1,000 of population.

TABLE XVII.

SHOWING NUMBER OF NOTIFICATIONS OF VENEREAL DISEASE SINCE 1914.

Fiscal Year.	Notifi-cations.	Mean Population.	Incidence per 1,000 Popula-tion.
1914-15	..	688,212	2.054
1915-16	..	690,494	2.818
1916-17	..	680,772	2.171
1917-18	..	688,946	..
1918-19	..	707,732	2.83
1919-20	..	737,463	3.861
1920-21	..	754,374	3.051
1921-22	..	769,180	2.359
1922-23	..	785,466	2.177
1923-24	..	804,442	1.889

TABLE XVII.—continued.

Fiscal Year.	Notifi-cations.	Mean Population.	Incidence per 1,000 Popula-tion.
1924-25	..	825,313	1.821
1925-26	..	847,757	1.652
1926-27	..	864,502	1.525
1927-28	..	877,753	1.564
1928-29	..	891,435	1.55
1929-30	..	903,703	1.705
1930-31	..	917,830	1.690
1931-32	..	930,456	1.978
1932-33	..	940,628	1.556
1933-34	..	950,462	1.595
1934-35	..	961,200	1.298
1935-36	..	972,767	1.156
1936-37	..	984,056	1.23
1937-38	..	996,448	1.26
1938-39	..	1,008,207	1.127
1939-40	..	1,021,426	1.077
1940-41	..	1,032,122	1.286
1941-42	..	1,036,690	1.164
1942-43	..	1,040,433	2.98
1943-44	..	1,054,810	2.576
1944-45	..	1,068,630	2.24
1945-46	..	1,084,125	1.207
1946-47	..	1,097,303	1.251
1947-48	..	1,112,722	1.112
1948-49	..	1,134,738	.745
1949-50	..	1,163,084	.628
1950-51	..	1,172,542	.534
1951-52	..	1,219,606	.514
1952-53	..	1,247,890	.607
1953-54	..	1,280,000	.578

Table XVIII. shows the alleged sources of the notified infections of which 55 are attributed to professional prostitutes, as compared to 44 last year.

Fifteen professional prostitutes were found infected (and treated) as compared with a similar number in the previous year.

TABLE XVIII.  
SHOWING SOURCES OF INFECTION.

Non-professional	..	..	..	438
Unknown	..	..	..	200
Prostitutes	..	..	..	55
Occupational	..	..	..	15
Wives	..	..	..	10
Aborigines	..	..	..	9
Husbands	..	..	..	8
Mothers	..	..	..	3
Parents	..	..	..	2

740

Tables XIX. and XX. show the Marital status and age groups of the cases notified and show little variation from the pattern of the previous years.

TABLE XIX.

MARITAL STATUS.

	Males.	Females.	Total.
Married	..	..	156
Single	..	..	515
Separated	..	..	15
Widowed	..	..	9
Divorced	..	..	4
Unknown	..	..	41
	611	129	740

TABLE XX.  
SHOWING AGE DISTRIBUTION OF NOTIFIED CASES.

Age Group.	Males.	Females.	Total.
Under 1 year .. ..	3	2	5
1-5 years .. ..	..	..	..
6-10 years .. ..	..	2	2
11-15 years .. ..	1	..	1
16-20 years .. ..	64	29	93
21-25 years .. ..	157	26	183
26-30 years .. ..	133	17	150
31-35 years .. ..	94	10	104
36-40 years .. ..	50	8	58
41-45 years .. ..	34	5	39
46-50 years .. ..	23	2	25
51-55 years .. ..	15	1	16
56-60 years .. ..	9	2	11
61-65 years .. ..	3	..	3
Over 65 years .. ..	9	2	11
Unknown or Unstated .. ..	16	23	39
	611	129	740

Table XXI. shows the sources of the notifications received. It will be seen that 9·3 per cent. of these were received from private practitioners as compared with 10 per cent. last year and 9·7 per cent. in the previous year. Of the remainder of the notifications, approximately 15 per cent. come from Public Hospitals and 75 per cent. from Clinics (mainly the two ad hoc clinics in Brisbane.)

TABLE XXI.  
SHOWING SOURCES OF NOTIFICATION.

—	Males.	Females.	Total.
Private Doctors—			
Brisbane .. ..	23	6	29
Outside Centres .. ..	35	5	40
Total .. .. ..	58	11	69
Hospitals—			
Brisbane .. ..	12	12	24
Outside Centres .. ..	57	37	94
Total .. .. ..	69	49	118
Clinics—			
Brisbane .. ..	461	58	519
Outside Centres .. ..	23	11	34
Total .. .. ..	484	69	553
Total all sources .. ..	611	129	740

#### AD HOC CLINICS—BRISBANE.

The male clinic is situated in South Brisbane. In addition to the treatment of venereal diseases, it provides prophylactic facilities for those requiring them (including merchant seaman and service personnel) and also provides clinical instruction for medical students. Owing to the growth of Brisbane and changed distribution of population and industry, the present position could be more convenient and it is hoped that a more suitable site will be found.

The staff of the Female Clinic, in addition to the provision of treatment for female cases, also conducts a weekly examination of prostitutes, and treats any infected females at H.M. Prison.

#### DEPARTMENTAL CLINIC FOR MALES.

A. Record of Activities.						
New Cases .. .. ..	..	..	..	..	..	1,139
Total Visits .. .. ..	..	..	..	..	..	13,195
Notifications .. .. ..	..	..	..	..	..	461
Injections—						
Arsenic .. .. ..	..	..	..	..	..	2
Bismuth .. .. ..	..	..	..	..	..	74
Penicillin .. .. ..	..	..	..	..	..	991
						1,067
Bloods for Wassermann Tests .. .. ..	..	..	..	..	..	1,620
Smears to Departmental Laboratory .. .. ..	..	..	..	..	..	381
Smears examined at Clinic .. .. ..	..	..	..	..	..	5,016
Dark Ground Tests at Clinic .. .. ..	..	..	..	..	..	67
Prophylactic Treatments .. .. ..	..	..	..	..	..	1,102
B. Notifications (Dissected).						
Early Syphilis—						
Primary .. .. ..	..	..	..	..	..	31
Secondary .. .. ..	..	..	..	..	..	7
Latent .. .. ..	..	..	..	..	..	12
Late Syphilis—						
Secondary .. .. ..	..	..	..	..	..	1
Pre-natal .. .. ..	..	..	..	..	..	Nil
Latent .. .. ..	..	..	..	..	..	1
Neuro .. .. ..	..	..	..	..	..	1
Tertiary .. .. ..	..	..	..	..	..	1
						54
Gonorrhoea—						
Acute .. .. ..	..	..	..	..	..	298
Chronic .. .. ..	..	..	..	..	..	Nil
						298
Venereal (Genital) Warts .. .. ..	..	..	..	..	..	86
Soft Sore .. .. ..	..	..	..	..	..	23
						461

#### DEPARTMENTAL CLINICS FOR FEMALES.

##### RECORD OF ACTIVITIES 1953-54.

A. WOMEN'S CLINIC.						
Total Interviews .. .. ..	..	..	..	..	..	859
New Patients .. .. ..	..	..	..	..	..	134
Arsenical Injections .. .. ..	..	..	..	..	..	14
Bismuth Injections .. .. ..	..	..	..	..	..	144
Gonorrhoea vaccine injections .. .. ..	..	..	..	..	..	6
Penicillin injections .. .. ..	..	..	..	..	..	263
Smears .. .. ..	..	..	..	..	..	553
Bloods for Wassermann Test .. .. ..	..	..	..	..	..	215
Dark ground examinations .. .. ..	..	..	..	..	..	11
Trichomonas .. .. ..	..	..	..	..	..	5
Patients cultured .. .. ..	..	..	..	..	..	193
Number of cultures .. .. ..	..	..	..	..	..	516
Patients treated (thrush, &c.) .. .. ..	..	..	..	..	..	8
Discharged .. .. ..	..	..	..	..	..	3
B. WILLIAM ST. ROOMS (EXAMINATION OF PROSTITUTES).						
Examinations .. .. ..	..	..	..	..	..	1,581
Bloods .. .. ..	..	..	..	..	..	211
Dark ground examinations .. .. ..	..	..	..	..	..	3
Smears .. .. ..	..	..	..	..	..	3,169
Patients cultured .. .. ..	..	..	..	..	..	15
Number of cultures .. .. ..	..	..	..	..	..	43
C. NOTIFICATIONS (DISSECTED).						
Early Syphilis—						
Primary .. .. ..	..	..	..	..	..	1
Secondary .. .. ..	..	..	..	..	..	2
Latent .. .. ..	..	..	..	..	..	1
Late Syphilis—						
Tertiary .. .. ..	..	..	..	..	..	6
Treated .. .. ..	..	..	..	..	..	1
Gonorrhoea—						
Acute .. .. ..	..	..	..	..	..	47
Chronic .. .. ..	..	..	..	..	..	7
Treated .. .. ..	..	..	..	..	..	1
						66

Eleven of these notifications were of professional prostitutes.

Acute Gonorrhoea .. .. .. .. .. 11

Nine of these notifications are those of prisoners in Her Majesty's Prisons—

Acute Gonorrhoea .. .. .. .. .. 7  
Chronic Gonorrhoea .. .. .. .. .. 2

Thirty-four girls were examined from St. Mary's Home. No venereal disease was detected in these patients.

Two contacts of male primary syphilites were treated.

### SECTION OF FOOD AND DRUGS.

The work of this Section embraces all relevant duties under the Food and Drug Sections of the Health Acts, the Food and Drug Regulations, Health (Food Supply) Regulations, the Poisons Regulations, Health (Insecticide) Regulations, the Milk sellers' Regulations, and the Footwear Regulations.

*Milk.*—This most important article of food has again received the attention of the staff. Policing a milk supply for a State with such wide differences of climatic conditions is not an easy task, and it is pleasing to report that the milk supply generally can be considered satisfactory.

Sampling operations were carried out regularly in Brisbane and the larger cities, whilst sampling was carried out as frequently as possible in other centres. These samplings covered all avenues of the sale of milk, i.e. at farms, bulk deliveries to factories, at factories and at points of distribution to the public, such as retail vendors and shops. The numbers of samples obtained and submitted to the Government Analyst are shown in the Government Chemical Laboratory section of this report. Many prosecutions were launched for adulterations with water and convictions were secured in every case.

TABLE XXII.  
PROSECUTIONS FOR MILK ADULTERATION (ADDED WATER).

Date.	Place.	Fines.	Costs.
		£ s. d.	£ s. d.
1953—			
3rd August ..	Gin Gin ..	10 0 0	1 11 0
19th August ..	Caboolture ..	5 0 0	1 11 0
19th August ..	Gladstone ..	10 0 0	1 11 0
19th August ..	Gladstone ..	10 0 0	1 11 0
7th October ..	Atherton ..	10 0 0	1 11 0
8th October ..	Mossman ..	5 0 0	1 11 0
26th November ..	Brisbane ..	20 0 0	1 11 0
26th November ..	Brisbane ..	20 0 0	1 11 0
27th November ..	Brisbane ..	16 0 0	1 16 0
27th November ..	Rockhampton ..	10 0 0	1 11 0
27th November ..	Proserpine ..	6 0 0	1 11 0
27th November ..	Proserpine ..	15 0 0	1 11 0
10th December ..	Brisbane ..	7 0 0	2 1 0
11th December ..	Boonah ..	5 0 0	1 11 0
17th December ..	Miles ..	10 0 0	6 16 0
1954—			
11th January ..	Rockhampton ..	20 0 0	1 11 0
26th January ..	Brisbane ..	5 0 0	1 11 0
2nd February ..	Dalby ..	15 0 0	1 11 0
11th February ..	Brisbane ..	10 0 0	1 11 0
11th February ..	Brisbane ..	20 0 0	1 16 0
16th February ..	Brisbane ..	5 0 0	1 11 0
18th February ..	Brisbane ..	15 0 0	1 11 0
23rd February ..	Brisbane ..	13 0 0	1 16 0
2nd March ..	Maryborough ..	11 0 0	1 11 0
Totals ..	.. .. .. ..	273 0 0	43 4 0

Where deficiencies were found in milk fat content, every step was taken to secure the desired improvement. However, it was found

necessary on some occasions to institute legal proceedings against persistent offenders. The results of these cases are tabulated below.

TABLE XXIII.  
PROSECUTIONS FOR MILK ADULTERATION (FAT DEFICIENCY).

Date.	Place.	Fines.	Costs.
		£ s. d.	£ s. d.
1953—			
27th November ..	Proserpine ..	15 0 0	1 11 0
22nd December ..	Rockhampton ..	3 0 0	1 11 0
1954—			
2nd February ..	Ayr ..	5 0 0	1 11 0
Totals ..	.. .. .. ..	23 0 0	4 13 0

Close attention was paid to pasteurisation plants, which now operate in most of the larger centres of the State, and it is worthy of mention that a great deal of improvement has been effected both in lay-out of plants and working methods at some premises which were not up to the desired standard. Samples for both chemical and bacteriological analysis were regularly

secured and the results obtained were found useful in control work at pasteurising plants. Generally, results were found good but further improvements have been ordered in some premises, and a continuance of this control work will undoubtedly obtain this desired improvement.

Complaints about faulty milk and foreign objects in milk were promptly investigated, and corrective measures were as promptly undertaken. In addition, where breaches of the milk-

sellers' Regulations were found warranting prosecution, such action was taken. Results of these cases are listed below:—

TABLE XXIV.  
OTHER OFFENCES BY MILK-SELLERS.

Date.	Place.	Offence.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
29th January ..	Rockhampton ..	Selling without licence .. .. ..	1 0 0	0 10 0
15th February ..	Toowoomba ..	Fly in bottle of milk .. .. ..	10 0 0	1 11 0
13th April ..	Townsville ..	Bottling milk in an open place .. .. ..	0 10 0	3 13 0
13th April ..	Townsville ..	Capping milk bottle by hand .. .. ..	0 10 0	0 10 0
13th April ..	Townsville ..	No dust proof covers on tap .. .. ..	10 0 0	2 12 0
Totals .. .. .. .. ..			22 0 0	8 16 0

The licensing of milk-vendors in the Greater Brisbane area ceased at the end of this fiscal year, when the Brisbane Milk Board assumed responsibility for the registration of milk-sellers in Brisbane. Close liaison exists between this board and the department, and also between the board and the Department of Agriculture and Stock. Such co-operation between the three bodies concerned, with the provision and distribution of a good milk supply for the capital city, can have nothing but beneficial effects.

During the year, the trade was notified that the dumping of milk on streets and open places must cease by 30th June. Reasonable time was given to the trade to make provision for depots and depot sites for the hygienic and orderly handling of milk.

*Coconut.*—The tracing of cases of typhoid salmonella infection in a southern state to desiccated coconut of Papuan origin as the likely source of infection led to an immediate investigation of stocks of coconut in this State. Close co-operation was maintained with the trade, which, when apprised of the possibilities, agreed wholeheartedly to cease sales of desiccated coconut, pending the results of a complete examination by this department. This agreement was honoured practically completely by the trade. A comprehensive range of samples were obtained and submitted to bacteriological examination. In many samples, organisms of the salmonella group were isolated and typed. As an upshot of the risk of infection, a ban on the sale of desiccated coconut of Papuan manufacture was gazetted. This ban was later relaxed by allowing the use of such of the coconut as could be satisfactorily sterilised by heat to the satisfaction of the Director-General. Prompt action by the department, assisted by the willing co-operation of the trade, prevented any risk to the public from this foodstuff.

*Tobacco.*—Lessons learned by growers from the previous year resulted in a very big improvement in the contamination of tobacco crops with poisonous residues. With the inability to sell leaf heavily contaminated with arsenic, growers turned their attention to different types of pesticides, types toxic enough to deal with pests but not so toxic to human beings. Snap testing continually done throughout the year revealed a very big improvement in regard to spray residues. That the quality of the leaf was not impaired by the change of pesticide is evident from the outstanding success of the sales this year. It should now be patent to the grower that he can successfully grow tobacco without recourse to highly toxic pesticides.

*Fruit.*—During the year, it was found that growers were again forwarding to the local market fruit which was contaminated with arsenical spray residue. A quick comprehensive sampling-raid apprised the department of the over-all position. Action taken in prohibiting such contaminated fruit from sale had an immediate effect. The supply of contaminated fruit soon tapered off, and it is pleasing to report that it was not long before inspections were revealing that fruit was now coming to the markets in a satisfactory condition.

*Liquor Testing.*—This feature of the work of the section was not neglected during the year and officers carried out tests regularly of liquors for sale in all parts of the State. Where adulteration was detected, the necessary proceedings were taken. In addition to the monetary punishment, placarding of premises and forfeiture of any supplies of offending liquor help to act as a deterrent in such cases. Results are summarised in the table below.

TABLE XXV.  
LIQUOR PROSECUTIONS.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1953—				
8th July ..	Brisbane ..	Adulterated rum .. .. ..	10 0 0	1 7 0
8th July ..	Brisbane ..	Adulterated rum .. .. ..	5 0 0	1 7 0
8th July ..	Brisbane ..	Adulterated rum .. .. ..	15 0 0	1 7 0
17th August ..	Toowoomba ..	Adulterated rum .. .. ..	10 0 0	1 11 0
20th August ..	Roma ..	Adulterated rum .. .. ..	20 0 0	0 10 0
24th August ..	Southport ..	Falsely described rum .. .. ..	10 0 0	0 10 0
28th August ..	Brisbane ..	Adulterated brandy .. .. ..	10 0 0	1 11 0
16th December ..	Roma ..	Adulterated whisky .. .. ..	20 0 0	5 15 0
1954—				
20th April ..	Proserpine ..	Adulterated rum .. .. ..	10 0 0	1 11 0
12th May ..	Rockhampton ..	Adulterated brandy .. .. ..	10 0 0	4 14 0
Totals .. .. .. .. ..			120 0 0	20 3 0

*Preservatives in meat.*—The law prohibits the use of any preservative in minced meat, and a limited quantity ( $3\frac{1}{2}$  grains to the pound) in sausages and sausage meats. Sampling operations were carried out in most main centres of

the State and, though many butchers showed that there was no difficulty in conforming to the standards above, there were quite a large number of butchers who offended. Their failure to obey the law led to their being prosecuted.

TABLE XXVI.

## PROSECUTIONS FOR ADULTERATED MINCED MEAT AND SAUSAGES DURING THE YEAR, 1953-54.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
30th March	.. Rockhampton	Minced meat adulterated with preservative ..	7 0 0	1 11 0
30th March	.. Rockhampton	Excess preservative in sausage meat ..	7 0 0	1 11 0
30th March	.. Rockhampton	Minced meat adulterated with preservative ..	5 0 0	1 11 0
14th April	.. Brisbane	Minced meat adulterated with preservative ..	10 0 0	1 11 0
14th April	.. Brisbane	Minced meat adulterated with preservative ..	5 0 0	1 11 0
14th April	.. Brisbane	Minced meat adulterated with preservative ..	10 0 0	1 11 0
14th April	.. Brisbane	Minced meat adulterated with preservative ..	5 0 0	1 11 0
23rd April	.. Rockhampton	Minced meat adulterated with preservative ..	4 0 0	1 11 0
23rd April	.. Rockhampton	Minced meat adulterated with preservative ..	3 0 0	1 11 0
23rd April	.. Rockhampton	Minced meat adulterated with preservative ..	1 0 0	0 18 0
23rd April	.. Rockhampton	Minced meat adulterated with preservative ..	1 0 0	0 18 0
23rd April	.. Rockhampton	Excess preservative in sausage meat ..	5 0 0	1 11 0
23rd April	.. Rockhampton	Excess preservative in sausage meat ..	4 0 0	1 11 0
23rd April	.. Rockhampton	Excess preservative in sausages ..	2 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	1 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	20 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	3 9 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	18 9 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	5 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	5 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	8 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	6 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	2 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	1 0 0	1 11 0
28th April	.. Brisbane	Minced meat adulterated with preservative ..	5 0 0	1 11 0
12th May	.. Cairns	Minced meat adulterated with preservative ..	2 0 0	1 11 0
12th May	.. Rockhampton	Minced meat adulterated with preservative ..	2 0 0	1 11 0
12th May	.. Rockhampton	Minced meat adulterated with preservative ..	2 0 0	1 11 0
25th May	.. Rockhampton	Minced meat adulterated with preservative ..	2 0 0	1 11 0
27th May	.. Babinda	Excess preservative in sausage ..	3 0 0	2 1 0
2nd June	.. Brisbane	Excess preservative in sausage ..	5 0 0	1 11 0
7th June	.. Rockhampton	Minced meat adulterated with preservative ..	2 0 0	0 18 0
7th June	.. Rockhampton	Minced meat adulterated with preservative ..	2 0 0	0 18 0
7th June	.. Rockhampton	Minced meat adulterated with preservative ..	4 0 0	1 11 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	10 0 0	1 11 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	3 0 0	1 11 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	0 14 0	1 16 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	0 19 0	1 11 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	3 0 0	4 14 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	4 0 0	4 14 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	1 4 0	1 16 0
9th June	.. Townsville	Minced meat adulterated with preservative ..	3 0 0	1 16 0
11th June	.. Rockhampton	Minced meat adulterated with preservative ..	4 0 0	1 11 0
15th June	.. Brisbane	Minced meat adulterated with preservative ..	2 0 0	1 11 0
15th June	.. Brisbane	Excess preservative in sausages ..	10 0 0	1 11 0
15th June	.. Brisbane	Excess preservative in sausages ..	10 0 0	1 11 0
17th June	.. Brisbane	Excess preservative in sausages ..	5 0 0	1 11 0
21st June	.. Toowoomba	Minced meat adulterated with preservative ..	3 0 0	1 11 0
21st June	.. Toowoomba	Minced meat adulterated with preservative ..	3 0 0	1 11 0
30th June	.. Brisbane	Excess preservative in sausages ..	10 0 0	1 16 0
30th June	.. Brisbane	Excess preservative in sausages ..	10 0 0	1 11 0
Totals	.. ..		250 15 0	84 5 0

*Sausages.*—A standard is provided by the Regulations for sausages to ensure a reasonable meat content. A range of samples was secured and submitted to the analyst. Where sausages

were not found to conform to the standard, butchers so offending had legal proceedings instituted against them.

TABLE XXVII.

## PROSECUTIONS FOR MEAT DEFICIENCY IN SAUSAGES.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1954—				
12th May	.. Brisbane	7·4% deficient in meat content ..	8 9 0	1 11 0
12th May	.. Brisbane	15·0% deficient in meat content ..	20 0 0	1 11 0
16th June	.. Brisbane	28·1% deficient in meat content ..	5 0 0	1 11 0
30th June	.. Brisbane	31·8% deficient in meat content ..	10 0 0	1 11 0
Totals	.. ..		43 9 0	6 4 0

*Fish.*—Inspection of fish sold on the Brisbane market was carried out. All fish considered unfit for human consumption was removed from sale and destroyed. The following table shows details of such condemnations:—

TABLE XXVIII.

## QUANTITY OF FISH CONDEMNED AND DESTROYED AT THE FISH BOARD, SOUTH BRISBANE.

Class of Fish.	Weight.			
	T.	C.	Q.	L.
Bream .. .. .. ..	3	3	1	7
Black Bream .. .. .. ..	0	0	3	15
Bream Fillets .. .. .. ..	0	1	0	14
Bonito .. .. .. ..	0	0	3	0
Catfish .. .. .. ..	0	1	3	21
Chinaman .. .. .. ..	0	0	1	2
Cod .. .. .. ..	0	0	2	12
Cod Fillets .. .. .. ..	0	0	3	4
Coral Bream .. .. .. ..	0	0	3	2
Darts .. .. .. ..	0	6	0	0
Drummer .. .. .. ..	0	0	0	14
Emperor .. .. .. ..	0	1	1	14
Flathead .. .. .. ..	0	12	3	5
Flounder Fillets .. .. .. ..	0	3	3	22
Garfish .. .. .. ..	0	2	2	15
John Dory .. .. .. ..	0	0	2	24
King Fish .. .. .. ..	0	0	2	19
Long Toms .. .. .. ..	0	0	0	19
Mackerel .. .. .. ..	0	0	3	24
Mixed Fish .. .. .. ..	0	5	1	14
Morwong .. .. .. ..	0	0	2	9
Mullet .. .. .. ..	11	4	3	19
Parrot .. .. .. ..	0	0	3	14
Perch .. .. .. ..	0	0	1	15
Ray .. .. .. ..	0	2	3	2
Schnapper .. .. .. ..	0	11	3	13
Shark .. .. .. ..	0	1	1	3
Squid .. .. .. ..	0	3	0	5
Squire .. .. .. ..	0	1	0	22
Sweetlip .. .. .. ..	0	9	2	18
Tailer .. .. .. ..	0	14	2	2
Trevalli .. .. .. ..	0	0	2	19
Trout .. .. .. ..	0	0	0	2
Tuna .. .. .. ..	0	0	0	14
Turrum .. .. .. ..	0	0	2	14
Whiting .. .. .. ..	0	12	2	1
Yellow Tail .. .. .. ..	0	0	0	15
Total .. .. .. ..	19	10	1	14

also :—

Prawns .. ..	0 tons 16 cwt. 1 qr. 16 lb.
Cooked Prawns .. ..	6 tons 2 cwt. 2 qr. 0 lb.
Sandcrabs .. ..	907
Cooked Sandcrabs .. ..	401
Lobsters .. ..	1,395
Oysters .. ..	462 bottles, 3 bags.

*Unsound foods.*—The usual check on food-stuffs generally was kept, and as a result of our inspectors' activities, large quantities of unsound food were destroyed under supervision. Details are as follows:—

TABLE XXIX.  
UN SOUND FOODS DESTROYED.

Article.	Weight.			
	T.	C.	Q.	L.
Bacon .. .. .. ..	0	8	3	8½
Baking Powder .. .. .. ..	0	0	1	20
Beetroot (Tinned) .. .. .. ..	1	5	1	18
Biscuits .. .. .. ..	0	1	0	5
Cereals .. .. .. ..	1	2	3	24
Cheese .. .. .. ..	0	3	2	11
Coconut .. .. .. ..	0	0	3	4

## UNSOUND FOODS DESTROYED—continued.

Article.	Weight.			
	T.	C.	Q.	L.
Coffee .. .. .. ..	0	8	3	26
Coffee and Milk .. .. .. ..	0	0	1	14
Colouring Matter .. .. .. ..	0	0	2	18
Condiments .. .. .. ..	0	0	0	20
Confectionery .. .. .. ..	1	11	1	24
Cordials .. .. .. ..	0	10	2	4
Cornflour .. .. .. ..	0	3	3	26
Curry Powder .. .. .. ..	0	1	0	11
Dates .. .. .. ..	0	9	2	20
Fish—				
Dried .. .. .. ..	0	10	3	8
Fresh .. .. .. ..	0	2	1	27½
Tinned .. .. .. ..	0	4	2	13
Flour .. .. .. ..	0	2	3	26
Fruit—				
Dried .. .. .. ..	0	0	1	1
Fresh .. .. .. ..	2	10	4	5
Tinned .. .. .. ..	19	19	1	2½
Ham .. .. .. ..	0	2	2	19
Honey .. .. .. ..	0	0	0	19
Jams .. .. .. ..	0	1	2	16
Jelly Crystals .. .. .. ..	0	1	0	2
Meat (Tinned) .. .. .. ..	0	0	2	14
Milk—				
Condensed .. .. .. ..	0	0	2	24
Malted .. .. .. ..	0	19	2	16
Mustard .. .. .. ..	0	0	0	18
Nuts .. .. .. ..	0	11	3	0
Pickles .. .. .. ..	0	0	2	1
Potatoes .. .. .. ..	2	7	3	25
Prawns .. .. .. ..	0	3	0	2
Prunes and Rice .. .. .. ..	0	1	0	27
Rice .. .. .. ..	0	2	2	0
Sauce .. .. .. ..	5	9	1	2
Soups .. .. .. ..	0	0	1	1
Sugar—				
Brown .. .. .. ..	0	0	2	24
Icing .. .. .. ..	0	1	2	27
Plain .. .. .. ..	0	6	2	12
Tapioca .. .. .. ..	0	0	2	0
Tea .. .. .. ..	24	14	1	27
Vegetables—				
Fresh .. .. .. ..	1	8	3	23
Tinned .. .. .. ..	0	9	0	17
Vegetable Extracts .. .. .. ..	0	14	0	16
Vegetable Spread .. .. .. ..	0	0	3	9
Vermicelli .. .. .. ..	0	0	2	10
Vinegar .. .. .. ..	1	14	0	3
Miscellaneous .. .. .. ..	0	1	1	11½
Total .. .. .. ..	69	17	3	2

In addition :—

Bottled Beer .. ..	89½ gallons
Fruit .. ..	44 cases
Cigarettes .. ..	712,616
Cigars .. ..	243
Tobacco .. ..	1 ton 5 cwt. 3 qr. 12½ lb.

*Complaints.*—Complaints in regard to insanitary food premises, unhygienic food handling, and adulterated foods were investigated. It is the policy of the Department to use prosecution as a last resource, preferring to secure compliance with the Regulations on the part of the public by advice, persuasion, and education. The various tables in this report show that success is not always achieved.

TABLE XXX.  
MISCELLANEOUS PROSECUTIONS.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
1953—				
10th November ..	Innisfail ..	Dirty cafe premises .. .. .. ..	£ 9 0 0	£ 1 10 0
10th November ..	Innisfail ..	Dirty cafe premises .. .. .. ..	5 0 0	0 10 0
11th December ..	Tully ..	Dirty cafe premises .. .. .. ..	10 1 0	0 15 0
16th December ..	Atherton ..	Dirty bakehouse premises .. .. .. ..	10 0 0	3 13 0
1954—				
8th January ..	Mackay ..	Smoking while preparing food for sale ..	3 0 0	0 10 0
22nd January ..	Mackay ..	Exposing unsound fruit for sale ..	3 0 0	0 10 0
22nd January ..	Mackay ..	Selling unsound Fruit .. .. .. ..	3 0 0	0 10 0
22nd January ..	Mackay ..	Dirty food premises .. .. .. ..	5 0 0	0 10 0
17th February ..	Caboolture ..	Dirty bakehouse premises .. .. .. ..	15 0 0	0 10 0
2nd March ..	Mourilyan ..	Dirty food premises .. .. .. ..	10 0 0	1 0 0
5th March ..	Brisbane ..	Falsely described insecticide .. .. .. ..	3 0 0	4 14 0
10th March ..	Brisbane ..	Cockroach in sausage .. .. .. ..	10 0 0	0 10 0
22nd April ..	Brisbane ..	Selling adulterated fish .. .. .. ..	13 9 0	1 11 0
22nd April ..	Ravenshoe ..	Bread deficient in wholesome content .. .. .. ..	10 0 0	1 11 0
22nd April ..	Ravenshoe ..	Bread deficient in wholesome content .. .. .. ..	20 0 0	1 11 0
19th May ..	Toowoomba ..	Cockroach in soft drink .. .. .. ..	10 0 0	0 10 0
31st May ..	Mareeba ..	Beer wastes not denatured .. .. .. ..	25 0 0	0 10 0
3rd June ..	Brisbane ..	Adulterated chicken filling .. .. .. ..	15 0 0	6 17 0
29th June ..	Brisbane ..	Cockroach in meat pie .. .. .. ..	5 0 0	1 11 0
			184 10 0	29 3 0

*General.*—Apart from the special matter mentioned above, a close watch has been kept on all premises, where food is manufactured, packed, prepared, and handled for sale and sold. The range of premises concerned is a wide one and embraces food factories, bakeries, aerated water factories, warehouses, retail shops etc. Inspectors have been busy on this particular work, and as a result of their activities, many improvements have been affected in premises and many improvements obtained in methods of manufacture.

*Check sampling.*—Allied with the above work is another important activity of this department, i.e., unofficial check—sampling of food products with a view to ascertaining their compliance with standards. During this year, over 3,000 such samples were submitted to the Government Analyst and action taken, where necessary, on the result of his analyses. A multiplicity of lines comes under review, and include milks, tobacco, bread, jams, aerated waters, confectionery, flours, cereals, condiments, beverages, biscuits, soaps—in fact, samples of practically every line for which standards are laid down in the Food and Drug Regulations.

*Labelling.*—Arising from such analyses, any labelling defects have been corrected. The Health Acts require that no food shall be misdescribed and labels must indicate the true nature of the food. In addition, certain specific requirements are laid down by regulation. Opinions and advice on labels are continually sought by the trade, whose confidence and co-operation is enjoyed in this regard.

*Insecticides.*—The spreading application of Chemistry to industry has resulted in a flow of insecticides on the market and these have been examined in regard to their composition and correct labelling.

*Paint.*—Many samples of paint have been secured and submitted for analysis. The law restricts the percentage of soluble lead on certain parts of premises to under five, and, where breaches of this law have been detected, the necessary corrective action has been taken. This work is a vital part of the campaign against lead-poisoning, the incidence of which is high in Queensland.

In one particular shire in Queensland, it was found that a very large number of premises had been painted in contravention of the law, and action is being taken to have offending paint removed from all such premises. One unfortunate feature was that, in a town dependent on rain water for domestic purposes, quite a few of the houses had the roofs painted with paint of high lead content.

Paint Regulations were gazetted in 1953 providing for the proper packing, description and labelling of paints so as to ensure that the purchaser was well aware of the composition of the paint he was buying. These regulations occupied the attention of the trade, and, as a result, several conferences were held with the department. Minor differences were ironed out and it is now anticipated that, when amended regulations are promulgated, they will prove satisfactory to all concerned.

TABLE XXXI.  
PAINT PROSECUTIONS.

Date.	Place.	Basis of Prosecution.	Fine.	Costs.
			£ s. d.	£ s. d.
1953—				
2nd October ..	Rockhampton ..	Using lead paint on prohibited place ..	5 0 0	18 5 0

*Legislation.*—The Cafe Regulations of 1952 were repealed, and the Cafe Regulations of 1953, in which the powers were extended to all Local Authorities in the State, were gazetted. A further amendment to these Regulations gave powers to license to certain Local Authorities in the State. As forecast last year, the Paint Regulations of 1953 were also gazetted.

To meet advances in science with new drugs and medicines coming on the market, three separate amendments of the Poisons Regulations were gazetted during the year. Included in one of these amendments were powers to deal effectively with certain organic phosphates, used as pesticides. These are highly toxic.

The danger of mercurous chloride being indiscriminately used in teething powders for children resulted in an amendment of the Food and Drug Regulations, which now prohibits its sale and use for such purposes.

Amendments of the Food and Drug Regulations have been prepared to bring them into line, not only with modern standards and practice, but with the Regulations of other States.

*Poisons and Drugs.*—Work entailed in the carrying out of the Poisons Regulations is an essential feature of the work of this section. Poisons Regulations are made to ensure the safe and orderly handling of poisons and drugs and constant attention and supervision of all dealings with such matters is most essential. Work has been carried on steadily during the year and has embraced inspections of hospitals, chemists, and licensed dealers in poisons. Remedial action has been taken to correct breaches, whilst recourse has been had to court proceedings in some instances (Table XXXII.). The law envisages the correct packing and labelling of poisons, their being sold under proper conditions and their safe use. This indicates the scope of the inspector's work in this regard.

In addition, Poisons Regulations provide for the effective control of the sale and use of dangerous and restricted drugs. The use of such drugs is not small in present day medicine and keeping check of the requirements of the Poisons Regulations in regard to these drugs occupied a deal of time.

TABLE XXXII.  
PROSECUTIONS UNDER POISONS REGULATIONS.

Date.	Place.	Basis of Prosecution.	Fines.	Costs.
			£ s. d.	£ s. d.
1953—				
27th August ..	Rolleston ..	Selling poisons without a licence .. ..	6 0 0	0 10 0
7th September ..	Biloela ..	Selling poisons without a licence .. ..	3 0 0	1 11 0
1954—				
2nd June ..	Brisbane ..	Improper packing of poison .. ..	5 0 0	1 11 0
			14 0 0	3 12 0

## ENVIRONMENTAL SANITATION.

Local Authorities are given all the necessary powers and authority for the superintendence, enforcement, and execution of the laws relating to environmental sanitation in this State.

Their administration is supervised by district officers of this Department who act in an advisory capacity to the Local Authority inspector. Reports received from our inspectors and the Local Authority would indicate that there is a desire on the part of the Local Authority to raise the standard of hygiene constantly in their areas. Unfortunately, there is a small number who will not accept the responsibilities which Parliament has given them, in that they will not implement the basic principles of preventive medicine. A factor in this is the failure to employ a health inspector, either because of the limited number available or the failure to make the necessary provision in their budgets.

It is the Health Inspector who is responsible to the Local Authority for seeing that the requirements of the Health Acts and Council Ordinances are being fulfilled. He should, like the Department's inspectors, endeavour to educate the public in their civic responsibilities without recourse to the penal clauses of the legislation, for in no other way will he receive the co-operation of the householder.

In the State at present there are 117 health inspectors employed by Local Authorities, distributed as follows:—

Brisbane City Council .. ..	29
Cities and Towns .. ..	36
Shires employing one or more inspectors .. .. ..	29
Joint areas (one inspector to two or more Local Authorities) .. ..	23
	—
	117
	—

By far the greater number of these inspectors are employed by Local Authorities in the southern and eastern parts of the State. In the north and central western parts of the State, there are many Local Authorities unable to obtain an inspector.

The main reason for this is the long distance to be travelled, particularly in joint areas. In an endeavour to overcome this, it is suggested to Local Authorities that they employ their own inspector and give him other duties which can be carried out at the same time as he is performing his health duties in an area.

*The Royal Visit.*—As was expected, the visit of Her Majesty Queen Elizabeth II. attracted unprecedented crowds at every place visited. This created problems in providing adequate sanitary arrangements for the public, as few, if any, centres have more conveniences than are required for everyday needs. It was necessary to estimate crowd densities and possible waiting times, and to provide adequate temporary sanitary conveniences in convenient but

unobtrusive sites as near as practicable to first aid posts. Local Authorities responded very well, and it is pleasing to report that no complaints were received concerning the arrangements.

*Nightsoil Removal and Disposal.*—The reports received from all over the State indicate that, with few exceptions, the collection and disposal of nightsoil is well carried out by Local Authorities using day labour or by contractors to the Local Authority. The exceptions are in the collection of the nightsoil when used pans are not fitted with an airtight lid, and in the disposal, when trenches are overfilled. Both practices are dangerous and can be prevented by an efficient inspector. Most contracts contain penal clauses and imposition of penalties by the Local Authority, on the advice of their inspector soon stops breaches.

Another serious breach often condoned by Local Authorities is the failure of builders to construct pansteads to the specifications as required by "The Sanitary Conveniences and Nightsoil Disposal Regulations, 1946." Weakening of the structure allows flies to have access to the pan contents with consequent liability to the spread of intestinal disease. This can only be prevented by regular house-to-house inspections by the inspector.

*Refuse Collection and Disposal.*—The collection of refuse has, for the most part, been well done, except in a few instances where the Local Authority, to effect economies, insists that occupiers of premises place the refuse bin on the footpath to save the time of the men engaged as collectors. This practice results in refuse not being regularly collected. It also imposes a hardship on elderly persons, particularly elderly women living alone as they find difficulty in carrying the bin to the footpath. Having the refuse bin in a recognised position on the premises to be collected by a man engaged for the purpose, is a much more satisfactory method.

The disposal of refuse throughout the State leaves much to be desired. Except in the few places where refuse is incinerated, the method of disposal generally practised is tipping, and reports show that in far too many places it is not covered, the refuse being left exposed for lengthy periods, thus attracting flies, rats, and cockroaches. Insecticidal or larvicidal measures are seldom adopted.

*Plague Precautions.*—It is the duty of every Local Authority to take active measures against rats. Most have enforced the regulations preventing the creation of rat harbourages in new buildings. But in combat with the rodent population, few, except those on the coastal belt, do little more than make poison baits available to the public. Most Local Authorities on the coastal belt employ rodent control men whose duty it is to destroy rats by whatever means possible.

Poisoning is the method usually used. A percentage of the carcasses of rats destroyed in Brisbane is examined at the laboratory of Microbiology and Pathology for evidence of plague.

The following table shows the number of rodents known to have been destroyed in the State during the year.

TABLE XXXIII.

Area.	Rats.	Mice.
Brisbane .. .. ..	55,379	10,208
Bundaberg .. .. ..	677	..
Cairns .. .. ..	2,067	194
Gympie .. .. ..	245	..
Ipswich .. .. ..	1,995	..
Mackay .. .. ..	82	81
Maryborough .. .. ..	598	4
Rockhampton .. .. ..	4,543	..
Townsville .. .. ..	3,047	281
Totals .. .. ..	68,633	10,768
Total all rodents .. .. ..	79,401	

Departmental officers have made inspections along the waterfront, and where rat harbourages have been found, they have been referred to the appropriate authority for attention.

*Mosquito Eradication.*—Many Local Authorities, by enforcing the screening of tanks, are doing much to control the breeding of the mosquito, *Aedes aegyti*, the vector of dengue and yellow fever. It is selective in its breeding places, requiring clean water, which is usually associated with habitation. But other species are more difficult to control. While many of them are not known as vectors of disease, they are still a nuisance. Because of the huge expenditure involved in permanently eradicating their breeding places, control of these can only be based on a long range plan, progressing a little each year. Subsidy of fifty (50) per cent. of the cost of permanent works is paid by the Government to Local Authorities wishing to undertake such works. The following table shows the amount of subsidy granted throughout the year.

TABLE XXXIV.

Local Authority.	Amount Granted.
	£
Brisbane City Council .. .. ..	28,720
Cairns City Council .. .. ..	13,780
Ipswich City Council .. .. ..	2,500
Mackay City Council .. .. ..	6,150
Rockhampton City Council .. .. ..	1,000
Townsville City Council .. .. ..	16,500
Bowen Town Council .. .. ..	316
Dalby Town Council .. .. ..	2,000
Redcliffe Town Council .. .. ..	3,847
South Coast Town Council .. .. ..	151
Blackall Shire Council .. .. ..	78
Burrum Shire Council .. .. ..	1,000
Douglas Shire Council .. .. ..	6,000
Johnstone Shire Council .. .. ..	2,042
Mareeba Shire Council .. .. ..	450
Murgon Shire Council .. .. ..	200
Stanthorpe Shire Council .. .. ..	295
Woongarra Shire Council .. .. ..	875
Total .. .. ..	85,904

*Camping Areas and Seaside Resorts.*—Departmental officers paid attention to camping areas and seaside resorts, particularly over the holiday periods, and it is pleasing to report that improvements are being made at almost all places by the provision of better water supplies, water closets connected to septic tanks, laundries and bathing facilities.

*Water Samples.*—Many of these samples are routine checks for Local Authorities on the quality of their reticulated water supplies. Quite a few however are for persons desirous of using ground water for domestic purposes.

It is advisable to draw attention to the fact that once water has been found to be polluted, it must be regarded as unsafe for all time and that one examination, showing no pollution of the water, does not guarantee it for ever. Pollution may be intermittent or the supply may become polluted after a good sample has been obtained.

District officers at Toowoomba, Rockhampton, Mackay, Townsville and Cairns all report that the conduct of essential services are in conformity with the general standard for the State. The following comments are offered in other respects:—

*Toowoomba.*—The Oakey water project has been completed, and reticulation of water at Stanthorpe should be completed at an early date.

Dalby Town Council is working on the augmentation of its town supply and Toowoomba has a long range plan for the expansion of the city water supply. Several smaller centres are exploring the possibility of reticulated water supply.

New blocks of public conveniences have been completed at Dalby and Warwick during the year.

*Rockhampton.*—Reticulated water schemes were completed in Mount Morgan, Ilfracombe, and at Yeppoon connections for reticulation are being made. The township of Jericho is investigating the practicability of providing a water supply from bores.

Further progress has been made in the sewerage scheme for the town of Blackall, and preparations for sewerage are being made at Gladstone and Barcaldine.

The serious floods in Rockhampton in the early part of 1954 created a grave risk of disease as they receded, but special measures by the Local Authority prevented any outbreak of disease.

*Mackay.*—For many years, some sugar mills have created fly breeding grounds and polluted streams by the disposal of washes.

Local Authorities have taken steps by means of which it is hoped that the fly breeding will be prevented and the pollution of streams is being investigated.

*Townsville.*—In two towns, Ayr and Mount Isa, vehicles in which the refuse is compressed as it is collected, are in use. Such vehicles not only reduce mileage and travelling time to and from the disposal ground, but the compressed

refuse, even though loosened by tipping, is more easily compacted in the tip than non-compressed refuse. This compacting helps to reduce fly breeding, rat harbourage, and the risk of fire from spontaneous combustion.

As the Shire of Thuringowa is without the services of an inspector of its own, departmental officers have assisted the Local Authority by making a house-to-house inspection in the town of Giru, and other inspections as required in other parts of the Shire.

*Cairns District.*—Plans for the installation of a sewerage scheme for the city of Cairns were further advanced during the year. The Shire of Atherton has almost completed the installation of septic systems in all premises in Atherton and Tolga. A similar system for the townships of Babinda and Gordonvale is being planned by the Mulgrave Shire. The Herberton Shire is investigating sewerage systems for the towns of Herberton, Ravenshoe, and Mount Garnet.

A reticulated water supply was completed at Kuranda, Edmonton, and Mount Garnet during the year. Further progress has been made in the new reticulation schemes for Mount Mulligan and Mount Molloy. Gordonvale now obtains its water from Behana Creek, a much more satisfactory source of supply than the Mulgrave River.

*Swimming Pools.*—Officers of this department, during the summer, tested the water in swimming pools at public baths, and school baths

for free residual chlorine. At all baths it was found that chlorine was available for the disinfection of the water.

*Bedding and Upholstery Regulations.*—In order to gain information for the better implementation of these regulations, unofficial samples of kapok, fibre, flock, and rags have been submitted to the Government Analyst and Laboratory of Microbiology and Pathology during the year. The investigation is proceeding and definite information is not yet available.

*Hotel Licensing.*—Many of our officers are appointed inspectors under “*The Liquor Acts, 1912 to 1947*”, and by regulation 37 of “*The Liquor Regulations 1936*,” all these officers enjoy the same powers in respect of regulations 33, 34, 35, and 36 of the abovementioned regulations as are conferred on an inspector appointed under the Acts.

At the request of the Licensing Commission, the annual inspection of licensed premises was resumed during the year, and reports on many of the hotels throughout the State have been submitted to the Commission. This work is to continue, and with a full year ahead, it is anticipated that a greater number of licensed premises will be inspected and reported on by our officers.

Many plans and specifications for new hotels, and/or alterations and additions to existing premises have been examined, and commented on to the Commission.

## SECTION OF HOOKWORM CONTROL.

Microscopist in Charge: S. THOMPSON.

## GENERAL.

The staff responsible for hookworm control consists of a Microscopist, Sister, one field inspector at Cairns, and one Sister at Innisfail.

During the year, the microscopist visited Mitchell River Mission. Of the 272 persons examined, 132 showed evidence of hookworm. Because of this high incidence, mass treatment was carried out, children of three years of age and under being treated in hospital. Arrangements have been made for all aborigines arriving at the Mission to be examined so as to prevent new foci of infection spreading the disease. The sanitary conditions at this Mission were a factor in the spread of the disease, and advice was given regarding improvements.

A survey of the Yarrabah Mission was carried out and it was pleasing to see the low incidence of hookworm prevailing there. This is due to the fact that the sanitary conveniences and the sanitary depot have been brought up to a fair standard, as well as regular visits by a medical officer from the Cairns Hospital. The Yarrabah and Mona Mona Missions are now practically free of hookworm disease.

Mass treatment of aborigines has been carried out at Cairns, Bloomfield River Camps, Cooktown Camp, Coen, and Mitchell River Mission.

Surveys of school children have also been carried out in the Cairns, Mossman, Coen, Innisfail, and Tully areas. Of the 2,374 school children examined, 51 were positive for hookworm, and 183 for other parasitic worms.

Intensive survey of cane cutters, mostly New Australians, was carried out in the Mulgrave Shire. Of the 473 examined, only two were found to be harbouring hookworms.

A large number of aborigines was examined from all areas, and of the 1,594 examined, 496 were found to be positive.

From all areas, 4,645 specimens were examined; 565 were positive for hookworm, and 101 of the hookworm hosts were treated to a cure.

It was found that 317 specimens contained ova of *Enterobius vermicularis*, *Hymenolepis nana*, and *Trichostrongylus orientalis*.

The School Sister at Innisfail carried out examination of specimens in conjunction with general school medical duties.

Arrangements have been made with the medical officers of district hospitals to treat persons heavily infested with hookworm, and carry out subsequent follow-up. Children three years of age and under, lightly infested, are also treated in hospitals.

Several hookworm cultures were made of positive specimens, and the examinations showed that these were *Ancylostoma duodenale*.

Sanitary inspections were carried out in the Mulgrave, Johnstone, and Douglas Shire areas, and reports were forwarded to the Local Authority, who issued the necessary notices.

Tables XXXV. and XXXVI. show the incidence of hookworm disease in each area, and the nature of the work carried out.

TABLE XXXV.  
ENDEMIC AREA UNDER RESIDENTIAL CONTROL.

Area.	Total.	Specimens.				Treatments.				
		Received.	Ex- amined.	Re- examined.	Positive.		Notices.	Delivered.	Posted.	Cured.
					H.W.	Others.				
Cairns Area—										
Schools .. ..	1,327	1,295	1,277	18	24	113	104	21	..	6
Mossman Area—										
Schools .. ..	114	116	111	5	12	7	7	9	3	2
Coen Area—										
Schools .. ..	23	34	20	14	15	1	1	6	7	6
Innisfail Area—										
Schools .. ..	514	484	484	..	..	35	35	..	..	..
Tully Area—										
Schools .. ..	466	445	445	..	..	27	27	..	..	..
School Total ..	2,444	2,374	2,337	37	51	183	174	36	10	14
Other Hosts in—										
Cairns Area ..	..	11	..	11	6	..	..	4	2	5
Daintree Area ..	..	3	..	3	3	..	..	..	3	..
Other Hosts Total ..	..	14	..	14	9	..	..	4	5	5
Intensive Survey—										
Cairns Area—										
Redlynch Sub-area	140	126	126	..	1	8	8	..	..	..
Edmonton Sub-area ..	108	104	104	..	..	2	2	..	..	..
Gordonvale Sub-area ..	239	208	208	..	1	6	6	1	..	..
Mossman Area—										
Mossman Beach Sub-area ..	35	35	35	..	1	..	..	..	1	..
Intensive Survey Total ..	522	473	473	..	3	16	16	1	1	..

TABLE XXXV.—*continued.*  
ENDEMIC AREA UNDER RESIDENTIAL CONTROL.—*continued.*

Area.	Total.	Specimens.					Treatments.			
		Received.	Ex- amined.	Re- examined.	Positive.		Notices.	Delivered.	Posted.	Cured.
					H.W.	Others.				
Miscellaneous—										
Cairns Area ..	110	110	110	..	1	9	9	1	..	..
Mossman Area ..	32	32	32	..	1	5	5	..	1	..
Mitchell River Mission ..	6	6	6	..	..	..	..	..	..	..
Innisfail Area ..	37	37	37	..	4	5	5	1	..	..
Tully Area ..	5	5	5	..	..	..	..	..	..	..
Miscellaneous Total	190	190	190	..	6	19	19	2	1	..
Aborigines—										
Cairns Area ..	246	274	218	56	95	3	3	89	..	14
Yarrabah Mission ..	668	639	639	..	26	48	1	26	..	..
Yarrabah Mission ..	..	30	14	16	5	2	49	5	..	12
Mona Mona Mission ..	17	34	17	17	9	5	5	8	..	9
Mossman Area ..	12	59	12	47	40	4	4	14	26	14
Daintree Area ..	84	79	62	17	31	..	..	2	25	6
Bloomfield Camps ..	31	31	31	..	11	..	..	69	3	..
Cooktown Area ..	27	50	27	23	31	1	1	83	..	5
Hopevale Lutheran Mission ..	26	89	26	63	60	7	7	49	11	16
Coen Area ..	11	23	11	12	15	..	..	189	8	6
Mitchell River Mission ..	272	272	272	..	173	27	27	240	..	..
Innisfail Area ..	14	14	14	..	..	2	2	..	..	..
Aborigines Total	1,408	1,594	1,343	251	496	99	99	774	73	82
All Areas—										
Cairns Area ..	2,170	2,128	2,043	85	128	141	132	116	2	25
Yarrabah Mission ..	668	669	653	16	31	50	50	31	..	12
Mona Mona Mission ..	17	34	17	17	9	5	5	8	..	9
Mossman Area ..	193	242	190	52	54	16	16	23	31	16
Daintree Area ..	84	82	62	20	34	..	..	2	28	6
Cooktown Area ..	27	50	27	23	31	1	1	83	..	5
Hopevale Lutheran Mission ..	26	89	26	63	60	7	7	49	11	16
Bloomfield River Area ..	31	31	31	..	11	..	..	69	3	..
Coen Area ..	34	57	31	26	30	1	1	195	15	12
Mitchell River Mission ..	278	278	278	..	173	27	27	240	..	..
Innisfail Area ..	565	535	535	..	4	42	42	1	..	..
Tully Area ..	471	450	450	..	..	27	27	..	..	..
Grand Total ..	4,564	4,645	4,343	302	565	317	308	817	90	101

Number of treatments administered in hospital—Cairns 37, Mossman 9, Cooktown 31, Gordonvale 1, Babinda 1.

TABLE XXXVI.

SANITATION.  
MULGRAVE SHIRE COUNCIL.

		Cairns Area.
Number of places visited .. ..	..	431
Number of sanitary conveniences inspected .. ..	..	469
Number of defective privies .. ..	..	277
Number of places without sanitary convenience .. ..	..	1
Septic tanks .. ..	..	72

## MULGRAVE SHIRE COUNCIL.

—	D. Class.	G. Class.	E. Class.	F. Class	H. Class.
Pails ..	96	91	134	1	1
Pits ..	24	44	8	..	..
Septic ..	72	..	..	..	..

## JOHNSTONE SHIRE COUNCIL.

		Innisfail Area.
Number of places visited .. ..	..	8
Number of sanitary conveniences inspected .. ..	..	27
Number of defective privies .. ..	..	8
Number of places without sanitary convenience .. ..	..	..

## JOHNSTONE SHIRE COUNCIL.

—	D. Class.	G. Class.	E. Class.	F. Class.	H. Class.
Pails ..	18	2	5	..	..
Pits ..	1	..	1	..	..

## DOUGLAS SHIRE COUNCIL.

		Mossman Area.
Number of places visited .. ..	..	47
Number of sanitary conveniences inspected .. ..	..	49
Number of defective privies .. ..	..	14
Number of places without sanitary convenience .. ..	..	1
Septic tanks .. ..	..	2

## DOUGLAS SHIRE COUNCIL.

—	D. Class.	G. Class.	E. Class.	F. Class.	H. Class.
Pails ..	26	8	2	1	..
Pits ..	7	1	3	..	..
Septic ..	2	..	..	..	..

D. Class—Regulation cabinet.  
G. Class—Below standard, but not allowing soil pollution.  
E. Class—Allowing soil pollution.  
F. Class—No sanitary convenience.  
H. Class—Soil pollution in evidence at time of inspection.

## DIVISION OF TUBERCULOSIS.

Director: E. W. ABRAHAMS, M.D. (Melb.), M.R.C.P. (Lond.).

Medical Officers: E. M. RATHOUSE, M.B., Ch.B. (Cape Town).

I. L. CHAPPLE, M.B., B.S. (Q'ld.).

This year has been one of consolidation in the attack on Tuberculosis in Queensland. An anticipated rise in the notification rate has not occurred.

*Buildings.*—The present stage of the building programme is as follows:

*Chest Hospital, Chermside.*—The pavilion section of the hospital is complete. The planting of lawns and scrubs has been commenced, staff is being recruited, and patients are expected to be in occupation by the time this report is published. As staff becomes available the number of patients will be increased until the full 186 beds of this stage are occupied.

Tenders for the main block have been let, and work on the foundations is well advanced. A serious delay in construction will occur unless deliveries of structural steel come forward rapidly.

*Thoracic annexe—Cairns General Hospital.*—This building is complete with the exception of minor fittings, and it is expected that it too will be occupied by the time this report is published.

*Thoracic annex—Townsville General Hospital.*—Work on this building is progressing very satisfactorily, and the building will be completed during the coming financial year.

*Thoracic annexes—Rockhampton and Toowoomba General Hospitals.*—These buildings are in the final stages of planning, and tenders should be let and work commenced within a few months.

*Waiben Sanatorium, Thursday Island.*—A new ward of 16 beds has been completed, bringing the capacity of the institution to 75. Further improvements, including X-ray room, and developing room, new kitchen, and the addition of two new wards are planned for the forthcoming year.

*Aplin Hostel, Thursday Island.*—This institution accommodates cases awaiting transport to their homes after treatment, and also provides accommodation for patients under outpatient investigation who are required to live on Thursday Island while this is being done. Two new wards, lavatory blocks, and laundry facilities are planned for the forthcoming year.

*Staff.*—Queensland is less centralised than the other Australian States, and recognising this, it has been decided to appoint regional chest physicians at suitable centres throughout the State. These doctors will be responsible for the public health control of tuberculosis in their area, and in addition will act as consultant chest physicians to the appropriate hospital

boards. Eventually these appointments will be made at Thursday Island, Cairns, Townsville, Rockhampton, and Toowoomba. The first of these, the Thursday Island position, has been filled by George R. Hales, M.B., Ch.B., T.D.D., and it is expected he will take up his appointment shortly. That for Cairns is at present under advertisement.

*Mass Radiography.*—This is continued at the Chest Clinic in Brisbane where a second X-ray unit has been installed, and also at the Brisbane General and Toowoomba General Hospitals where admissions are routinely X-rayed. In addition, the Mobile X-ray unit, which commenced working in July, 1953, has been touring the State; the major centres visited so far are Ipswich, Gladstone, Mount Morgan, Rockhampton, Bundaberg, Maryborough, Gympie, Nambour, Mackay, Proserpine, Bowen, and Collingville. These surveys have been on a voluntary basis and so far some 60,000 X-rays have been taken.

*Treatment.*—There have been no outstanding changes in treatment during the past year. Experience has, however, revealed interesting differences between the success of treatment in the coloured native inhabitants of the State, and in those of European origin.

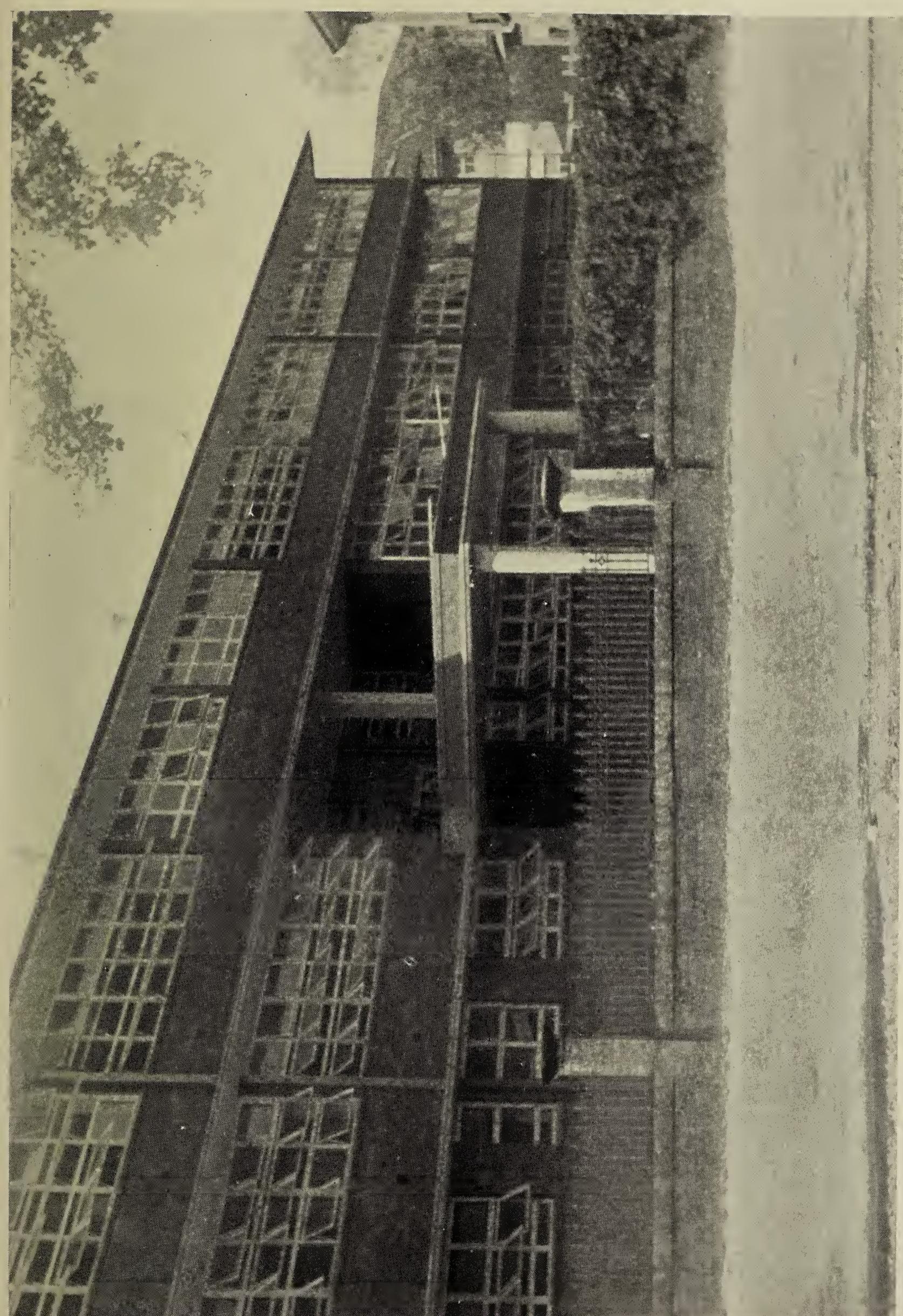
The immediate response to treatment with modern chemotherapy is good in both, and rapid clearing of X-ray pictures, and of enlarged glands is frequently seen. However, in whites with better natural resistance to the disease, the early improvement is usually consolidated, cavities, reduced in size, may close or become suitable for chest surgery, and the great majority of cases recover. In the native people, however, relapse has been distressingly common, and few become suitable for surgical measures to be undertaken.

Domiciliary care has been a prominent feature of the work of the Brisbane Chest Clinic, and during the past year 107 cases have been treated both before and after hospital treatment with chemotherapy for periods of from six to nine months.

The most serious treatment problem at present is the lack of a suitable centre for thoracic surgery, the surgeon being obliged to operate in a number of hospitals. The Repatriation Commission, by making a small number of female beds available at the Repatriation General Hospital, Greenslopes, has helped considerably, but we are still unable to operate on all cases in which surgical treatment might be of benefit, and considerable delay has developed between surgery being advised and being undertaken. It is hoped the completion of the Chest Hospital, Chermside will rectify this.

HEALTH AND MEDICAL SERVICES.

I. Thoracic Annexe, Cairns General Hospital.





*Notifications.*—The total cases notified for the year were 821, which is 122 less than last year. This fall was unexpected and cannot be fully explained as the case-finding campaign has been energetically pushed forward, and a large proportion of the notified cases have been from the Chest Clinic. Every effort is made to encourage private doctors to notify their cases, and it is hoped that their co-operation will be as good in the forthcoming years as in the past.

The difficulty of undertaking bacteriological investigations in the country districts has complicated the investigation of cases found by the Mobile X-ray Unit who have suspicious lung lesions, and probably some cases have therefore not been notified because their investigation is not complete.

The death rate for the calendar year 1953 is 12·3 per 100,000. The sharp drop during the past two years is undoubtedly due to the widespread use of modern chemotherapy, and chest surgery, and is in keeping with the trend in other States and overseas.

The morbidity figures, however, show a rise during the corresponding period. This is probably not a true increase in the number of cases occurring, but reflects increased case-finding, the registration of cases, and the fact of modern treatment which keeps more persons alive who would naturally be removed by death from the number of cases known.

The morbidity rate in post-war migrants is lower than the overall morbidity rate, and shows the effect of the careful screening which these persons have undergone, both before leaving overseas and on arrival in Australia.

*Prophylaxis.*—Investigation of contacts of known cases in country districts still presents great difficulty because of the distances involved, and because of transport difficulties in the Torres Straits-Gulf of Carpentaria area. Transport difficulties make regular medical visits, including those for tuberculosis prophylaxis, and case-finding, almost impossible, and until a suitable boat is provided in this area, prophylaxis must continue to be inadequate.

*Mantoux testing and B.C.G. Vaccination.*—School leaving age groups: This is described in the report of the School Health Services Section.

Testing is being continued among National Service Trainees, known contacts of cases of tuberculosis, nursing staffs of hospitals, University students, and other groups, and it is hoped that this aspect of the campaign can be extended to country districts.

*Aborigines.*—A limited follow-up survey was undertaken at the aboriginal settlement on Palm Island, at Woorabinda, and at Cherbourg by Dr. E. M. Rathouse who Mantoux-tested natives vaccinated by Dr. F. M. Macken with B.C.G. in 1950 at these centres. Results are set out in Table XLVIII.

The reversion rate—that is, cases vaccinated with B.C.G. and now found to be non-reactors to the Mantoux test—is disappointing and shows the need for regular surveys, and re-vaccination of those who have reverted, if the level of immunity of these communities is to be maintained. A more promising sign, however, was that no children under one year of age were found who re-acted to tuberculin, while four children had done so when Dr. Macken surveyed these same settlements. This, we hope, reflects a drop in the amount of disease occurring in these groups.

*Tuberculosis Allowances.*—The Commonwealth Tuberculosis Allowance scheme, for which the State Director in each State is medical referee, continues to be of great help to sufferers from this disease permitting, as it does, most cases to stop work, knowing that an adequate income is available for their families.

The group in which financial hardship may still occur is the middle income group rather than the wage earner, as the breadwinner's commitments may be heavier and the Tuberculosis Allowance inadequate to meet these demands.

During 1954–1955 the first major building works to be constructed under the Commonwealth/State Tuberculosis arrangement—the Cairns Thoracic Annexe, and the pavilion section of the Brisbane Chest Hospital—will be occupied. These increased treatment facilities will permit the attack on Tuberculosis throughout the State to be further intensified.

## SUMMARY OF THORACIC SURGERY—JULY, 1952, TO JULY, 1954.

MORGAN WINDSOR, M.B., B.S. (Syd.), M.S. (Syd.), F.R.C.S. (Eng.), Chest Surgeon.

An increasing amount of surgery has been done in these two years. This is due to a number of factors—the submission of more patients for assessment through normal hospital channels, the advent of the case-finding programme, the opening of the cardio-vascular field, the treatment of female tuberculous through Repatriation channels which provides some increase in operating time and, finally, the lengthening of normal operating sessions.

Much of the surgery performed was non-tuberculous in origin. Portion of this non-tuberculous surgery was referred from the Chest Clinic but the whole of the surgery carried out is included in this report because of the difficulty in differentiating these cases from cases diagnosed at hospitals.

## TUBERCULOUS SURGERY.

*Resection.*—All types of procedure are still in use, but there has been a considerable increase in the number of resections, particularly of the lobar, segmental, and enucleation types. This increase has been slightly at the expense of other major procedures, but mostly as an alternative to further sanatorium care, minor collapse procedures or merely a watching brief.

Pneumonectomies, and those upper lobectomies where it has seemed indicated, have been followed by partial thoracoplasties, either simultaneously or at a later date, depending upon the patient's condition.

In the 27 cases there has been no mortality, and only one fistula (pneumonectomy) later closed by thoracoplasty.

*Leucite Plombage.*—After the technical style of the Perth group this has been on trial for about two years. It has been used as an alternative to resection in apical disease, more particularly when, in the acute stage, there has been considerable disease present elsewhere.

It is also used where a classical thoracoplasty has been envisaged and the apex at operation has been softer than was expected. A certain number have been done in the over 50 year age-group who have had considerable disease with associated emphysema, in which resection or thoracoplasty in two stages would be more dangerous or less likely to achieve the desired results.

Two other factors have influenced its use: as a one-stage procedure it has considerably reduced the waiting list, whilst its performance under local anaesthesia has allowed its use at Rockhampton, and sometimes at Repatriation General Hospital, Greenslopes, where general anaesthesia for resection is not always readily available.

In 32 civilian cases, and 12 repatriation cases, it has been necessary to remove the spheres on three occasions for infection. There has been no subsequent trouble.

*Thoracoplasty.*—The classical operation with apicolytic but retention of the first rib has been practised. It has been used particularly for gross long-standing upper lobe disease and rarely for empyema. In the 43 cases were 40 two-stage procedures, and occasionally a loose polythene pack was inserted between stages. There were two deaths, both poor risk patients, in whom extensive apicolytic procedures were performed, where discretion would have been the better part of valour. Fortunately there has been no Seimb's infection or other serious morbidity.

*Monaldi Drainage.*—This has been done on six occasions preparatory to thoracoplasty. In one case the cavity had closed and thoracoplasty was avoided.

*Empyema.*—It is of interest that, of major procedures in 102 patients, only four were performed for empyema. One patient had an infected artificial pneumothorax, two had infected spontaneous pneumothoraces and one primary pleural disease. The first three were submitted to thoracoplasty, the last to decortication.

TABLE XXXVII.  
TUBERCULOUS SURGERY.

Operation.	1952-1953.	1953-1954.	Total.
BRISBANE.			
Thoracoplasty— (2 stages) 30 ..	20	13	33
(3 stages) 3 ..			
Leucite Plombage ..	7	13	20
Resection ..	11	16	27
Monaldi Drainage ..	2	1	3
Adhesion Section ..	4	2	6
ROCKHAMPTON.			
Thoracoplasty (2 stages) ..	7	3	10
Leucite Plombage ..	2	10	12
Resection ..			
Monaldi Drainage ..	1	2	3
Adhesion Section ..	3	2	5
Total .. ..	..	..	119
No. of Patients .. ..	119.		
No. of Operations .. ..		162.	

HEALTH AND MEDICAL SERVICES.



2. Waiben Sanatorium, Thursday Island. General View.



3. Interior of Ward, Waiben Sanatorium, Thursday Island.



TABLE XXXVIII.  
NON-TUBERCULOUS SURGERY—JUNE, 1952, TO JULY, 1954.  
*Lung and Mediastinum.*

	Pneumo-nectomy.	Lobectomy.	Segmental Resection.	Local Excision.	Exploratory Thoracotomy.	Total.
Suppurations—						
Bronchiectasis .. ..	..	25	5	..	..	30
Abscess (Torula 2) .. ..	2	1	..	..	..	3
Pneumonitis (Friedlander) .. ..	1	3	..	..	..	4
Pulmonary Tumours—						
Carcinoma .. ..	10	3	..	..	8	21
Secondary Carcinoma { Breast 2 }	..	..	..	1	3	4
{ Bowel 1 }	..	..	..			
{ Bone 1 }	..	..	..			
Adenoma .. ..	..	2	..	..	..	2
Angioma .. ..	..	2	..	..	..	2
Chondroma .. ..	..	1	..	2	..	3
Mediastinal Tumours .. ..	..	..	..	12	2	14
Pulmonary Cysts—						
Blebs .. ..	..	..	..	6	..	6
Congenital Cysts .. ..	..	3	..	..	..	3
Hydatids .. ..	..	..	..	4	..	4

Total Thoracotomies, 96.

Mortality (Exploratory Carcinoma) 1.

Morbidity (Bronchial Fistula) 2.

## Cardio-Vascular.

Patent Ductus—			
Ligations .. ..	..	18	
Division .. ..	..	1	
Mitral Stenosis—Valvotomies ..	..	4	
Cardiac Tumour—Thoracotomy and Biopsy .. ..	..	1	
Total Thoracotomies ..	..	24	
(Mortality 1)			

## Summary—Total Thoracotomies.

Pulmonary and Mediastinum ..	..	96
Cardio-Vascular .. ..	..	24
Pleura and Diaphragm .. ..	..	14
Oesophagus .. ..	..	12

Total .. .. .. 146  
(Mortality 7, Morbidity 2)

## Diaphragm and Pleura.

Hernia .. .. ..	..	8
Decortications—		
Clotted Haemothorax ..	..	2
Empyema .. ..	..	3
Pancreatic Effusion ..	..	1
Total Thoracotomies ..	..	14
(Mortality 1)		
Oesophagus.		
Carcinoma—Thoracotomies ..	..	7
(Resections 5, Mortality 2)		
Fibroma—Excision of Tumour ..	..	1
Congenital Atresia .. ..	..	4
(Mortality 2)		
Total Thoracotomies ..	..	12
(Mortality 4)		

## Miscellaneous.

Lung Biopsy .. .. ..	..	1
Empyema Drainage .. ..	..	5
Endoscopy Bronchoscopy—Diagnostic .. .. ..	..	250
Endoscopy Foreign Body Removal ..	..	3
Oesophagoscopy—Diagnostic ..	..	12
Oesophagoscopy Dilatation Stricture .. .. ..	..	5
Cardiospasm .. .. ..	..	3

Total .. .. .. 279

TABLE XXXIX.

## X-RAYS.

		Chest Clinic.	Mobile Unit.	Brisbane General.	Toowoomba General.
Micro X-Rays .. .. .. ..	..	34,656	62,978	25,442	2,954
Micro Re-rays .. .. .. ..	..	1,837	..	..	..
Large Films .. .. .. ..	..	2,826	2,411	1,198	58
Active +ve Cases .. .. .. ..	..	230 (88)	(36)	130 (37)	11 (3)

Cases Discovered by Micro-Radiography alone thus ( ).

TABLE XL.

## CASE REGISTER.

	Brisbane.		Country.		Totals.		
	Male.	Female.	Male.	Female.	Male.	Female.	Persons.
Notifications for 1953-54 ..	268	129	262	162	530	291	821
Cases on Register at 30-6-53 ..	860	490	733	377	1,593	867	2,460
Cases added to Register 1953-54 ..	239	118	233	151	472	269	741
Cases on Register at 30-6-54 ..	1,099	608	966	528	2,065	1,136	3,201

TABLE XLI.

SOURCES OF NOTIFICATION, 1953-1954.

Chest Clinic .. ..	.. .. .. .. ..	266
Hospitals .. ..	.. .. .. .. ..	244
Private Practitioners .. ..	.. .. .. .. ..	127
Repatriation Department .. ..	.. .. .. .. ..	62
Thursday Island Hospital .. ..	.. .. .. .. ..	54
Death Certificates .. ..	.. .. .. .. ..	34
Sanatoria .. ..	.. .. .. .. ..	22
Cherbourg Aboriginal Settlement .. ..	.. .. .. .. ..	12
Total .. .. .. .. ..	.. .. .. .. ..	821

TABLE XLII.

MANTOUX TESTS AND B.C.G. VACCINATIONS.

BY CHEST CLINIC, BRISBANE.

1-7-53 TO 30-6-54.

—	Mantoux Tested.	Positive.		Negative.		Did not Return.		Given B.C.G.		Refused B.C.G.	
		No.	No.	Per-	No.	Per-	No.	Per-	No.	Per-	No.
Chest Clinic .. ..	4,107	2,096	51·0	1,768	43·0	243	6·0	762	43·1	1,006	56·9
National Service Trainees .. ..	4,633	1,463	31·6	3,170	68·4	..	..	3,170	100·0	..	..
Teachers Training College .. ..	1,307	694	53·1	604	46·2	9	0·7	511	84·6	93	15·4
Gatton College ..	707	168	23·7	539	76·3	..	..	537	99·6	2	0·4
University Students ..	483	188	38·9	273	56·5	22	4·6	264	96·7	9	3·3
Westbrook Boys' Home	120	20	16·7	92	76·6	8	6·7	92	100·0	..	..
Totals .. ..	11,357	4,629	40·7	6,446	56·9	282	2·4	5,336	82·7	1,110	17·3

TABLE XLIII.

TUBERCULOSIS ALLOWANCES.

—	Male.	Fe-male.	Total.
Number accommodated in Tuberculosis Institutions .. ..	240	77	317
Number not so accommodated ..	327	113	440
Total receiving allowance ..	567	190	757

TABLE XLIV.

NUMBER OF HOSPITAL BEDS.

South Brisbane Auxiliary Hospital	..	..	250
Westwood Sanitorium	..	..	75
Thursday Island ..	..	..	80
Townsville Hospital ..	..	..	30
Repatriation Hospital, Greenslopes ..	..	..	93
Repatriation Hospital, Kenmore ..	..	..	64
Number available as at 30-6-54 ..	..	..	592
Chermside ..	..	..	180
Cairns ..	..	..	48
Anticipated number available at 1-9-1954 ..	..	..	820

TABLE XLV.  
TUBERCULOUS MIGRANTS.

—	British.			Non-British.			Total.
	Male.	Female.	Persons.	Male.	Female.	Persons.	
Cases prior to 30-6-53 .. ..	44	19	63	62	34	96	159
Cases 1-7-53—30-6-54 .. ..	13	9	22	17	14	31	53
Total Migrant Cases ..	57	28	85	79	48	127	212

TABLE XLVI.

MORTALITY AND MORBIDITY.

Deaths.

		Rate (per 100,000 mean population).
1950 ..	236	20·1
1951 ..	226	18·8
1952 ..	216	17·6
1953 ..	162	12·8

Morbidity.

1. Queensland Total Cases .. .. = 35·6 per 100,000 Australians.  
 2. Queensland Migrants .. .. = 22·2 per 100,000 migrants.

TABLE XLVII.  
MANTOUX SURVEY OF ABORIGINAL SETTLEMENTS.  
1950-51.

MANTOUX POSITIVE REACTOR RATE OF PERSONS NOT PREVIOUSLY TESTED OR B.C.G. VACCINATED.

Age Group.	Palm Island.			Cherbourg.			Woorabinda.			Total.		
	No. Tested.	Positive.	Per-centa-ge Positive.	No. Tested.	Positive.	Per-centa-ge Positive.	No. Tested.	Positive.	Per-centa-ge Positive.	No. Tested.	Positive.	Per-centa-ge Positive.
0- 1 ..	57	2	3.5	40	1	2.5	35	1	2.9	132	4	3.0
1- 2 ..	78	3	3.8	68	5	7.4	50	4	8.0	196	12	6.1
2- 3 ..	50	2	4.0	50	9	18.0	35	9	25.7	135	20	14.8
4- 5 ..	54	5	9.3	55	9	16.4	45	11	24.4	154	25	16.3
6- 9 ..	89	12	13.5	114	20	17.6	54	23	42.6	257	55	21.4
10-14 ..	124	67	54.0	156	71	45.5	51	37	72.5	331	175	52.9
15-19 ..	94	61	64.9	118	81	68.6	57	49	86.0	269	191	70.9
20-29 ..	274	224	81.9	139	115	82.8	95	74	78.0	508	413	81.2
30-39 ..	84	68	81.0	86	77	89.6	82	70	85.2	252	215	85.4
40- ..	281	242	86.1	158	140	88.7	110	92	83.8	549	474	86.4
	1,185	686	57.8	984	528	53.6	614	370	60.1	2,783	1,584	57.0

TABLE XLVIII.  
MANTOUX SURVEY OF ABORIGINAL SETTLEMENTS.  
JUNE, 1954.

MANTOUX POSITIVE REACTOR RATE OF PERSONS NOT PREVIOUSLY TESTED OR B.C.G. VACCINATED.

Age Group.	Palm Island.			Cherbourg.			Woorabinda.			Total.		
	+ VE.	No. Tested.	Per-centa-ge Positive.	+ VE.	No. Tested.	Per-centa-ge Positive.	+ VE.	No. Tested.	Per-centa-ge Positive.	+ VE.	No. Tested.	Per-centa-ge Positive.
0- 1 ..	..	36	..	..	50	..	..	24	..	..	110	..
1- 2 ..	5	43	11.6	1	19	5.2	2	21	9.5	8	83	9.7
2- 3 ..	1	34	2.9	3	45	6.7	1	27	3.7	5	106	4.7
4- 5 ..	3	61	4.9	1	71	1.4	9	46	19.6	13	178	7.3
6- 9 ..	5	23	21.7	10	33	30.3	8	26	30.8	23	82	28.1
10-14 ..	28	29	96.4	14	19	73.0	7	20	35.1	49	68	72.1
15-19 ..	5	8	62.6	18	22	81.5	14	22	63.7	37	52	71.2
20-29 ..	19	26	73.0	46	52	88.5	46	53	86.8	111	131	84.8
30-39 ..	21	27	77.8	36	44	86.0	16	19	84.2	73	90	81.0
40- ..	19	19	100.0	25	27	93.6	24	25	96.0	68	71	95.9
	106	306	34.7	154	382	40.3	127	283	44.8	387	971	39.8

TABLE XLIX.

MANTOUX NEGATIVE REACTOR RATE (REVERSION RATE) OF PERSONS GIVEN B.C.G. VACCINATION, 1950-51.

Age Group.	Palm Island.			Cherbourg.			Woorabinda.			Total.		
	- VE.	No. Tested.	Per-centa-ge Rever-sion.	- VE.	No. Tested.	Per-centa-ge Rever-sion.	- VE.	No. Tested.	Per-centa-ge Rever-sion.	- VE.	No. Tested.	Per-centa-ge Rever-sion.
0- 1 ..	..	..	..	..	..	..	..	..	..	..	..	..
1- 2 ..	..	..	..	..	..	..	..	..	..	..	..	..
2- 3 ..	..	..	..	..	..	..	..	..	..	..	..	..
4- 5 ..	44	75	58.6	31	54	57.4	20	34	58.8	95	163	58.3
6- 9 ..	40	88	45.5	36	105	34.3	1	3	33.3	77	196	39.3
10-14 ..	14	71	19.7	19	106	17.9	1	3	33.3	34	180	18.9
15-19 ..	11	44	25.0	10	49	20.3	1	2	50.0	22	95	23.2
20-29 ..	6	32	18.8	4	24	16.7	..	1	..	10	57	17.5
30-39 ..	5	17	29.4	5	12	41.7	..	..	..	10	29	34.5
40- ..	..	16	..	7	21	33.3	..	..	..	7	37	18.9
	120	343	35.0	112	371	30.2	23	43	53.5	255	757	33.7

## DIVISION OF INDUSTRIAL MEDICINE.

Director of Industrial Medicine: DOUGLAS GORDON, M.B., B.S. (Q'ld.).

Inspector in Charge: Weil's Disease Control: J. M. KENNEDY.

During the past year, the following matters have been dealt with by this Division:—

1. Reports submitted on industrial premises, industrial health hazards or to a less extent on administrative matters .. .. ..	63 (58)
2. Clinical reports, reports concerning laboratory investigations, &c., to medical practitioners, the Insurance Commissioner, &c. .. ..	723 (575)
3. Clinical examinations, other than regular routine ones .. ..	173 (107)

(1) Results of similar activities for last year are shown in brackets.

(2) As well as the matters dealt with in the above-mentioned official reports, approximately another one hundred and twenty different problems or questions were dealt with by letter, telephone or by interview.

## MENTION OF SOME MATTERS OF INTEREST WHICH RECEIVED ATTENTION.

Addition of Gammexane to ordinary Fertilisers.

Hazards from Uranium Mining.

Tenosynovitis of the radial extensor tendons in biscuit packers.

Plastic floor polishes.

Ventilation of a telephone research laboratory, of "dark rooms", of a city cafe.

Asbestos hazards in the manufacture of "asbestos" wall boards.

Alkaline skin hazard in glass manufacture.

Systemic poisoning from the chlor-phenate group of fungicides and weedicides.

A case of anthrax in the wool-sorting industry—with subsequent control of imported skins.

Assisted in drawing up regulations to prevent explosions in Banana Ripening rooms.

A patient with severe purpura—at first thought to have some connection with benzol but later shown to be due to mononucleosis.

Decarbonisation of cars with compressed air.

Fluorosis in a man dusting with fluorides.

Irritating fumes from whale-oil.

Use of X-ray techniques to discover faulty welds in pipes used in hydro-electric schemes.

Alleged Argyria in a silver-lead miner.

Pneumoconiosis in a millet farmer.

Sulphur dioxide hazard in a zinc oxide works.

Acetone in the fusing of collars.

Disinfection of wool.

Skin and respiratory disease among workers in a cement factory.

"Conway Fever", Proserpine.

SO<sub>2</sub> in fruit canning.

Use of arsenic among prickly-pear sprayers.

Address to the Dry Cleaners' Convention.

Dyes used to produce a green tattoo.

Use of carbon tetrachloride in fire extinguishers.

"TIFA" spraying of lindane.

Gnats in a coal-mine.

## PAPERS AND LECTURES.

A paper was delivered by the Director of Industrial Medicine to the Australian Convention of Dry Cleaners on the subject of "Health Problems in the Dry Cleaning Industry". The same officer delivered the Inaugural Presidential Address of the Thoracic Society of Queensland on "Dust and History". Lectures were delivered to medical and engineering students, and eight field-days were spent with medical students at the Ipswich Railway Workshops.

## INDUSTRIAL TOXICOLOGY.

*Parathions.*—During the year, various discussions with officers of the Department of Agriculture and Stock took place in regard to control of this group of newer insecticides. The necessity for control was determined by the death of an elderly man from parathion poisoning in which it proved impossible to discover the source of the toxin. As a result of this, regulations were introduced limiting the minimum size of the container of liquid concentrate to be sold, and prohibiting the use of parathions in powder form. The powder form is considered more dangerous, because the dust tends to blow onto the user, remain on him, and if he sweats, a certain amount of absorption would take place through the skin.

*Lead.*—Routine examinations of workers engaged in the more hazardous of the lead trades were carried on, as usual, without any untoward findings. Assistance was given to the inspectatorial staff regarding the use of lead paint, and as a result it can be anticipated that in the near future purchasers of paint will have adequate warning that they are buying paint which contains dangerous amounts of lead.

*Radio-Active Substances.*—The discovery of uranium-bearing ores in this State has brought to a head the matter of radio-active substances. At present, it is not anticipated that any great hazard will arise from their mining or treatment, but the Chief Inspector of Mines and officers of this Section have considered the matter fully, and are taking adequate steps to meet any difficulties or dangers which may arise.

*Chlor-Phenates.*—For many years, it has been considered that the chlor-phenate group of fungicides and weedicides was a severe skin irritant only. When first introduced into this State, there was an initial period during which skin cases were occurring, but with the publicity given, and the experience gained by the users, there have been few reports of disablement due to skin diseases in the last few years.

Unfortunately, during the current year, it became obvious that the widely-held opinion of their harmlessness as systemic poisons was poorly founded. Two cases occurred—one at Cairns and one at Nambour—in which the victims were severely ill in circumstances which definitely implicated the use of chlor-phenate material—in one case as a fungicide in a saw-mill, and in the other, as a weedicide on a pine-apple plantation. After this, a review made of

a death which occurred last year also suggested that this fatality was probably due to the use of chlor-phenates.

In the last six months, a report has come from overseas of the systemic toxicity of this substance, and there is a happening mentioned in which one hundred men were affected systemically, among whom there were two or three deaths.

*Whale-oil.*—The increasing complexity of industry in this State is shown by a complaint which came in during the year concerning whale-oil. Men handling this oil in tanks were found to be intensely irritated by the fumes. A search of the literature, particularly medical literature, relating to the Falkland Islands, shows that this is not an uncommon happening, although, apparently, the substance can hardly be termed a poison. It has irritant properties which worry the eyes and mucous surfaces.

#### DUST DISEASES.

*Asbestos.*—For the first time in the history of this State, cases of clinical asbestosis were discovered. One patient was originally found by the Chest Clinic as the result of an X-ray survey, and following this matter up, it was found that, during the war years, a rapid increase had taken place among industries making various asbestos building materials, such as wall board and roofing. This increased production had taken place without adequate safeguards to remove the dust. All men who had worked in two or three dusty processes implicated were followed up radiologically and their sputum examined where samples of sputum could be produced. Any man showing sputum containing asbestos bodies or a doubtful X-ray film or who had a clinical respiratory disease was clinically examined. This group of men contained not only present employees but also men who had since left the firm and who are now working elsewhere. The group comprised some fifty patients of whom about four were considered to be suffering from asbestosis. More than this number showed asbestos bodies but, since all other findings were negative, they were not considered as being clinically affected. The group will be followed up from time to time, in the future.

At the same time, dust counts were carried out of the processes going on at present in this factory. High dust counts were obtained in some instances, but the general ventilation of the plant was said to have been greatly improved in the last three years. There is evidence of this, for quite a deal of money has been spent in the installation of mechanical exhaust equipment. It can therefore be inferred that, during the war years, conditions were extremely dusty.

The other factory engaged in this type of work is being investigated at the present moment but early indications seem to suggest that, in their case, the same trouble will not be found. Steps are being taken to remove all hazards.

*Dust in Coal Mines.*—This year has been an extremely busy one for officers of the Department engaged in ventilation and dust surveys in coal mines. The increased interest started off with a dispute at Ogmore in which it was shown that very dusty conditions existed when shot-firing

was carried on during the working shift. The other coal mines in Central Queensland were also surveyed without any worth-while concentration of dust being discovered.

Later on in the year, the Chest Clinic visited these centres and no coal miners with suspicious micro-films were found. This does not rule out the possibility of early dust diseases being present but does at least show that there is no wide-scale incidence of well-developed dust diseases of the lungs in any of these men.

Up to date, the Chest Clinic has now surveyed most of the miners from the West Moreton and Central Queensland fields, with practically negative results, as far as dust is concerned. This bears out opinions expressed in previous reports.

At least half-a-dozen pits on the West Moreton fields have also had dust and ventilation surveys carried out during the year, either at the request of the Chief Inspector of Coal Mines or of the Union officials. The results, in the main, have been quite satisfactory.

A happy working arrangement now seems to exist between the Union concerned and officers of this Department. By and large, complaints are not made without some adequate foundation.

*Grain Dust.*—The bulk-handling of wheat in Queensland ports gave rise to some complaints concerning dust in this type of work. The set-up that was used was an improvised one, in which the grain was handled over much, with a good deal of dust being dissipated into the working atmosphere. A report was made showing that, in the storage shed and environs, the dust was too high for safety after the men worked there for a number of years. However, since silos and proper handling equipment are visualised in the near future, this hazard will probably be reduced.

Trimming in the ships' holds gives rise to heavy quantities of dust but, in this case, gangs of wharf labourers are rotated around and it is rather unlikely that any man, except an unnaturally allergic subject, would get into trouble, for any one man would hardly do this job, in the wheat season, more than one or two days a month.

*Dust In Cement Works.*—A survey was made of the local cement works, at the request of the main Union working there, to discover the incidence of sickness due to respiratory diseases and skin troubles. All sickness records were investigated and any man who considered that he was suffering from complaints due to the dust was clinically and radiologically examined. Definite proof was found that the incidence of skin diseases—principally dermatitis—was higher among this group of employees than would be expected elsewhere.

No lung diseases were found, but a few men were suffering from upper respiratory tract infections, such as sinusitis. It is difficult to determine whether this incidence of sinusitis was more than would be found among a similar group of men in other industries, for, in winter time, infections of the upper respiratory tract are exceedingly common.

As in other surveys carried out in various parts of the world, no evidence could be found that cement-makers suffer from any of the well-known dust diseases of the lungs.

#### MISCELLANEOUS INFECTIONS.

*Anthrax*.—A case of Anthrax occurred, in a man working in a wool store. This is the first case of this infection in this State since December 1950, and, as far back as records can be found, it is only the second case to occur in the wool industry here.

The source of the infection was considered to be due to dead wool introduced from a Southern State. All this consignment of wool was quarantined by the Department of Agriculture and Stock and was subsequently treated to remove any risk of further infection. The latter Department have also passed legislation making it extremely difficult for such wool to be introduced in the future. Happily, the patient recovered.

*"Conway Fever"*.—While visiting North Queensland, an opportunity was taken to visit Proserpine—an area where Dr. Derrick had heard that some cases of fever had existed in the past. A week-end was spent in the district and there is no doubt that the disease entity known locally as "Conway Fever", which occurred a number of years ago in a small wet belt along the coast, east of Proserpine, when the scrub was being fallen and when people were living in camping conditions, was Scrub Typhus. Now that this area has been more permanently settled, the disease would seem to have disappeared.

*"Monto Fever"*.—When in Central Queensland, a visit was paid to the Monto district to investigate a minor epidemic of infection with Leptospira Pomona which had occurred there. Particular interest was paid to this outbreak for it was the first time that an epidemic had occurred in a dairying district in what is a comparatively low rainfall area in this State.

In most instances, there had been sick calves or sick pigs on farms where patients had been affected and there was also evidence that quite a number of pigs and stud dairy calves had been introduced from wetter districts not long before the epidemic had been noticed.

*Scrub Typhus*.—A major development which has occurred during the past year is the work done by Dr. Derrick, of the Queensland Institute of Medical Research. Dr. Derrick has been engaged in mouse inoculations of blood from suspected cases of Scrub Typhus in North Queensland. His work, to date, has shown that the Weil-Felix agglutination test is not a good means of diagnosing Scrub Typhus. Cases which gave negative agglutination tests have subsequently been proved to give positive results by mouse inoculation. From other experiences, it is known that, on occasions, the Weil-Felix test will give a false positive result.

The results of this work are gratifying to this Section for, quite a number of years ago, the opinion was expressed that laboratory methods in existence were inadequate for the diagnosis of Scrub Typhus and quite a deal of injustice was, at times, done, in consequence, to men applying for compensation where their fever was considered to be due to occupation.

#### DETAILS OF FEVER PATIENTS.

The various tables appearing hereunder give the main data in connection with cases of "fever" which have occurred in North Queensland and in South Queensland. In the former instance the number of cases checked during the current year has shown a decline, being 524 in 1952-53 and 509 in 1953-54. On the other hand patients which we have followed up in Southern Queensland show an increase from 91 to 132. It must be remembered, however, that figures such as these probably do not really indicate a lessening or an increase of the problems investigated. So many extraneous circumstances can lead to an increase or decrease in the number of patients of which this Section becomes aware. It will suffice to say that the problem of the pyrexia of unknown origin is still with us.

It might be pointed out that during the year field follow-ups of fevers from the Mackay District were deficient on account of the fact that the Department's Health Inspector in that area did not have a truck to enable him to visit fever patients and the districts in which they worked.

TABLE L.  
TOTAL CASES NORTH QUEENSLAND, 509.

	Cane Worker.	Non-cane Worker.	Total.
Thursday Island District	..	1	1
Cooktown District	..	2	2
Mossman District	..	3	7
Atherton Tableland	..	2	2
Cairns District	..	1	5
Gordonvale District	..	14	5
Babinda District	..	16	3
Innisfail District	..	13	9
Tully District	..	3	2
Ingham District	..	..	1
Townsville District	..	..	..
North-Western Queensland	..	..	1
Bowen District	..	..	..
Proserpine District	..	..	..
Mackay District	..	..	1
Total	..	50	39
			89

#### LEPTOSPIROSIS (POMONA TYPE).

Thursday Island District	..	..	..	1
Atherton Tableland	..	..	..	2
Innisfail District	..	..	..	2
Townsville District	..	..	..	3
North-Western Queensland	..	..	..	1
Bowen District	..	..	..	1
Mackay District	..	..	..	1
Total	..	..	..	11

#### LEPTOSPIROSIS (MITIS TYPE).

Gordonvale	..	..	..	1
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#### SCRUB TYPHUS.

	Proved Cases.	Clinical Cases.	Total.
Thursday Island District	1	..	1
Cooktown District	3	..	3
Mossman District	3	..	3
Atherton Tableland	4	1	5
Cairns District	7	..	7
Gordonvale District	7	..	7
Babinda District	2	..	2
Innisfail District	3	..	3
Tully District	2	1	3
Ingham District	2	2	4
Total	34	4	38

## MURINE TYPHUS.

Atherton Tableland	..	5 (1 doubtful case)
Innisfail District	..	1
Bowen District	..	1
Total	..	7

## TICK TYPHUS.

Innisfail District	..	1
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## Q FEVER.

Atherton Tableland	..	1
Cairns District	..	1
Babinda District	..	1
Innisfail District	..	1
Townsville District	..	2
North-Western Queensland	3	(1 clinical case)
Mackay District	..	4
Total	..	13

## BRUCELLOSIS.

Atherton Tableland	..	1
Gordonvale District	..	1 (doubtful case)
Total	..	2

## P.U.O.

	Finalised.	Cases not completely investigated as it was not possible to obtain second blood samples.	Total.
Thursday Island District	..	11	11
Cooktown District	..	1	1
Mossman District	..	10	10
Atherton Tableland	35	2	37
Cairns District	24	1	25
Gordonvale District	23	1	24
Babinda District	23	1	24
Innisfail District	51	2	53
Tully District	18	2	20
Ingham District	14	1	15
Townsville District	29	..	29
North Western Queensland	14	1	15
Bowen District	4	..	4
Proserpine District	4	..	4
Mackay District	63	12	75
Total	..	324	23
			347

Grand Total North Queensland, 509.

TABLE LI.  
THURSDAY ISLAND DISTRICT.  
Total Cases—14.

	Month of Onset.	Leptospirosis (Non-cane Worker).	Leptospirosis (Pomona Type).	Scrub Typhus.	P.U.O.
<b>1953—</b>					
July	..	..	..	..	2
August	..	..	1	..	..
September	..	..	..	..	2
October	..	..	..	..	..
November	..	..	..	..	..
December	..	..	..	..	1
<b>1954—</b>					
January	..	..	..	..	..
February	..	..	1	1	2
March	..	..	..	..	..
April	..	..	..	..	1
May	..	..	..	..	1
June	..	..	..	..	2
<b>Totals</b>	..	..	1	1	11

TABLE LII.  
COOKTOWN DISTRICT.  
Total Cases—6.

	Month of Onset.	Leptospirosis.		Scrub Typhus.	P.U.O.
		Cane Worker.	Non-cane Worker.		
<b>1953—</b>					
July	..	..	1	..	..
August	..	..	1	1	..
September	..	..	..	..	..
October	..	..	..	..	..
November	..	..	..	..	..
December	..	..	..	..	..
<b>1954—</b>					
January	..	..	..	..	..
February	..	..	..	..	1
March	..	..	1	..	..
April	..	..	..	..	..
May	..	..	1	..	..
June	..	..	..	..	..
<b>Totals</b>	..	..	2	3	1

TABLE LIII.  
MOSSMAN DISTRICT.  
Total Cases—23.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).
	Cane Worker.	Non-cane Worker.							
<b>1953—</b>									
July ..	..	..	..	..	..	..	..	..	..
August ..	..	..	..	..	..	..	..	1	..
September ..	..	..	..	..	..	..	..	1	..
October ..	..	..	..	..	..	..	..	..	..
November ..	..	..	..	..	..	..	..	..	..
December ..	..	..	..	..	..	..	..	5	..
<b>1954—</b>									
January ..	..	..	..	..	1	..	..	..	1
February ..	..	..	1	3	..	..	..	1	..
March ..	..	..	..	1	..	..	..	..	..
April ..	..	..	..	3	..	..	..	..	..
May ..	..	..	2	..	..	1	..	..	..
June ..	..	..	..	..	..	..	..	1	..
<b>Totals ..</b>	<b>..</b>	<b>3</b>	<b>7</b>	<b>..</b>	<b>3</b>	<b>..</b>	<b>..</b>	<b>10</b>	<b>..</b>

TABLE LIV.  
ATHERTON TABLELAND.  
Total Cases—53.

Month of Onset.	Lepto-spirosis (Non-cane Worker).	Lepto-spirosis (Pomona Type.)	Scrub Typhus.	Clinical Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).	
<b>1953—</b>										
January ..	..	..	..	..	..	..	..	1	..	
July ..	..	..	..	..	..	..	..	1	..	
August ..	..	..	3	..	..	..	..	4	..	
September ..	..	..	1	..	..	..	..	5	1	
October ..	..	..	..	..	2	..	..	4	..	
November ..	..	..	..	1	1	..	..	5	..	
December ..	..	..	..	..	1	..	..	4	..	
<b>1954—</b>										
January ..	..	1	1	..	..	1*	..	2	1	
February ..	..	..	..	..	..	..	..	5	..	
March ..	..	..	..	..	..	..	..	3	..	
April ..	..	1	..	..	..	..	..	..	..	
May ..	..	..	..	..	..	1	1	..	..	
June ..	..	..	..	..	..	..	..	1	..	
<b>Totals ..</b>	<b>..</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>35</b>	<b>2</b>

\* Doubtful.

TABLE LV.  
CAIRNS DISTRICT.  
Total Cases—39.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Q Fever.	P.U.O.	P.U.O. (Lack of Complete Investi-gation).		
	Cane Worker.	Non-cane Worker.							
<b>1953—</b>									
July ..	..	..	..	..	2	..	2		
August ..	..	..	..	..	..	..	2		
September ..	..	..	..	..	1	1	2		
October ..	..	..	..	..	..	..	5		
November ..	..	..	..	..	..	..	1		
December ..	..	..	..	..	..	..	1		
<b>1954—</b>									
January ..	..	..	..	1	..	..	1		
February ..	..	..	..	..	..	..	1		
March ..	..	..	3	..	1	..	1		
April ..	..	..	..	1	..	..	4		
May ..	..	..	1	..	..	..	2		
June ..	..	..	..	..	1	..	2		
<b>Totals ..</b>	<b>..</b>	<b>..</b>	<b>1</b>	<b>5</b>	<b>..</b>	<b>7</b>	<b>1</b>	<b>24</b>	<b>1</b>

TABLE LVI.  
GORDONVALE DISTRICT.  
Total Cases—52.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Lepto-spirosis (Mitis Type).	Scrub Typhus.	Clinical Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investigation).
	Cane Worker.	Non-cane Worker.									
<b>1953—</b>											
July ..	1	..	..	..	1	..	..	..	..	..	..
August ..	3	..	..	..	..	..	..	..	..	1	..
September ..	3	..	..	..	..	..	..	..	1*	3	1
October ..	..	..	..	..	1	..	..	..	..	3	..
November ..	..	..	..	..	..	..	..	..	..	4	..
December ..	..	..	..	..	..	..	..	..	..	1	..
<b>1954—</b>											
January ..	..	2	..	..	1	..	..	..	..	1	..
February ..	2	..	..	..	..	..	..	..	..	1	..
March ..	2	..	..	..	..	..	..	..	..	3	..
April ..	..	1	2	..	..	..	..	..	..	5	..
May ..	1	1	..	..	1	2	..	..	..	..	..
June ..	..	1	..	..	..	2	..	..	..	1	..
Totals ..	14	5	..	1	7	..	..	..	1	23	1

\* Doubtful.

TABLE LVII.  
BABINDA DISTRICT.  
Total Cases—46.

Month of Onset.	Leptospirosis.		Scrub Typhus.	Clinical Scrub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investigation.)	
	Cane Worker.	Non-cane Worker.								
<b>1953—</b>										
July ..	..	1	..	1	..	..	..	1	..	
August ..	..	3	..	..	..	1	..	2	..	
September ..	..	3	..	..	..	..	..	1	..	
October ..	..	1	..	1	..	..	..	11	..	
November ..	..	1	..	..	..	..	..	3	1	
December ..	..	2	..	..	..	..	..	..	..	
<b>1954—</b>										
January ..	..	..	1	..	..	..	..	1	..	
February ..	..	1	1	..	..	..	..	..	..	
March ..	..	..	..	..	..	..	..	..	..	
April ..	..	..	2	..	..	..	..	2	..	
May ..	..	..	1	..	..	..	..	1	..	
June ..	..	..	1	..	..	..	..	1	..	
Totals ..	..	16	3	2	..	..	1	..	23	1

TABLE LVIII.  
INNISFAIL DISTRICT.  
Total Cases—83.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Scrub Typhus.	Tick Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investigation.)
	Cane Worker.	Non-cane Worker.								
<b>1953—</b>										
May ..	..	..	..	..	..	..	..	..	1	..
July ..	1	..	..	..	..	..	..	..	4	..
August ..	..	..	..	..	1	..	..	..	3	..
September ..	1	..	..	..	..	..	..	..	3	..
October ..	..	..	..	..	..	..	..	..	6	1
November ..	..	..	..	..	..	..	..	..	3	..
December ..	2	..	..	..	..	..	..	..	3	1
<b>1954—</b>										
January ..	..	1	..	..	..	..	..	..	4	..
February ..	2	2	..	..	..	..	1	..	1	..
March ..	1	..	1	..	..	..	..	..	1	..
April ..	1	4	..	2	..	1	..	..	6	..
May ..	2	1	1	1	..	..	..	..	12	..
June ..	3	1	..	..	..	..	..	..	4	..
Totals ..	13	9	2	3	1	1	1	..	51	2

TABLE LIX.

TULLY DISTRICT.

Total Cases—28.

Month of Onset.	Leptospirosis.		Scrub Typhus.	Clinical Scrub Typhus.	P.U.O.	P.U.O. (Lack of Complete Investigation).
	Cane Worker.	Non-cane Worker.				
<b>1953—</b>						
March	..	..	..	..	1	..
April	..	..	..	..	..	..
May	..	..	..	..	..	..
June	..	..	..	..	1	..
July	..	..	..	..	..	..
August	..	..	..	..	1	..
September	..	..	..	..	1	..
October	..	..	..	..	..	..
November	..	..	..	..	..	..
December	..	..	..	..	..	..
<b>1954—</b>						
January	..	..	..	..	1	2
February	..	..	1	..	3	..
March	..	..	..	2	2	..
April	..	..	2	..	1	..
May	..	..	..	2	4	..
June	..	..	..	..	3	..
Totals	..	..	3	2	1	18
						2

TABLE LX.

INGHAM DISTRICT.

Total Cases—20.

Month of Onset.	Leptospirosis.		Scrub Typhus.	Clinical Scrub Typhus.	P.U.O.	P.U.O. (Lack of Investigation.)
	Cane Worker.	Non-cane Worker.				
<b>1953—</b>						
May	..	..	..	..	1	..
June	..	..	..	..	1	..
July	..	..	..	..	..	..
August	..	..	..	..	..	..
September	..	..	..	..	..	..
October	..	..	..	..	..	..
November	..	..	..	..	1	..
December	..	..	..	..	..	..
<b>1954—</b>						
January	..	..	..	..	1	..
February	..	..	..	1	..	..
March	..	..	..	1	1	2
April	..	..	1	..	3	..
May	..	..	..	..	4	..
June	..	..	..	..	1	1
Totals	..	..	1	2	14	1

TABLE LXI.

TOWNSVILLE DISTRICT.

Total Cases—34.

Month of Onset.	Leptospirosis. (Pomona Type).	Q Fever.	P.U.O.
<b>1953—</b>			
June	..	1	..
July	..	..	3
August	..	1	2
September	..	..	3
October	..	..	4
November	..	..	4
December	..	..	1
<b>1954—</b>			
January	..	..	2
February	..	..	1
March	..	..	2
April	..	..	2
May	..	..	3
June	..	..	2
Totals	3	2	29

TABLE LXII.  
NORTH-WESTERN QUEENSLAND.  
Total Cases—20.

Month of Onset.	Lepto-spirosis (Non-cane Worker).	Lepto-spirosis (Pomona Type).	Q Fever.	Q Fever (Clinical).	P.U.O.	P.U.O. (Lack of Complete Investi- gation.)
<b>1953—</b>						
July ..	..	..	1	1	2	1
August ..	..	..	..	..	1	..
September ..	..	..	..	..	2	..
October ..	..	..	..	..	..	..
November ..	..	..	..	..	2	..
December ..	..	..	..	..	1	..
<b>1954—</b>						
January ..	..	..	..	..	..	..
February ..	..	..	..	..	3	..
March ..	..	1	..	..	..	..
April ..	..	..	..	1	2	..
May ..	..	..	..	..	1	..
June ..	..	..	..	..	..	..
<b>Totals</b>	<b>..</b>	<b>..</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>
					<b>14</b>	

TABLE LXIII.  
BOWEN DISTRICT.  
Total Cases—6.

Month of Onset.	Leptospirosis (Pomona Type).	Murine Typhus.	P.U.O.
<b>1953—</b>			
July ..	..	..	..
August ..	..	..	..
September ..	..	..	..
October ..	..	..	1
November ..	..	..	..
December ..	..	..	..
<b>1954—</b>			
January ..	..	..	..
February ..	..	..	..
March ..	..	..	..
April ..	..	..	..
May ..	..	..	..
June ..	..	..	3
<b>Totals</b>	<b>..</b>	<b>1</b>	<b>4</b>

TABLE LXIV.  
PROSERPINE DISTRICT.  
Total Cases—4.

Month of Onset.	P.U.O.
<b>1953—</b>	
October ..	2
<b>1954—</b>	
March ..	2
April ..	..
May ..	..
June ..	..
<b>Total</b>	<b>4</b>

TABLE LXV.  
MACKAY DISTRICT.  
Total Cases—81.

Month of Onset.	Leptospirosis.		Lepto-spirosis (Pomona Type).	Q Fever.	Brucellosis.	P.U.O.	P.U.O. (Lack of Complete Investi- gation).
	Cane Worker.	Non-cane Worker.					
<b>1953—</b>							
June ..	..	..	..	..	..	1	..
July ..	..	..	1	..	..	5	..
August ..	..	..	..	..	..	7	..
September ..	..	..	..	..	..	1	..
October ..	..	..	..	..	..	3	..
November ..	..	..	..	..	..	7	1
December ..	..	..	..	..	..	7	1
<b>1954—</b>							
January ..	..	..	..	1	1	..	7
February ..	..	..	..	..	1	..	8
March ..	..	..	..	..	..	6	1
April ..	..	..	..	..	..	3	1
May ..	..	..	..	..	..	3	3
June ..	..	..	..	..	..	5	1
<b>Totals</b>	..	..	1	1	4	..	63
							12

TABLE LXVI.

FEVER CASES, SOUTHERN QUEENSLAND (TOTAL 132).  
Occupations of Patients.

## Q. FEVER—(Total 58).

Stock Inspector ..	..	..	..	..	1
Abattoir worker ..	..	..	..	..	43
Meat inspector ..	..	..	..	..	1
Slaughterman ..	..	..	..	..	2
Dairy farmer ..	..	..	..	..	5
Farmer ..	..	..	..	..	2
Butcher's labourer ..	..	..	..	..	1
Timber cutter ..	..	..	..	..	1
Forestry worker ..	..	..	..	..	1
Shearer ..	..	..	..	..	1
<b>Total</b>	..	..	..	..	58

## BRUCELLOSIS—(Total 12).

Dairy farmer ..	..	..	..	..	2
Butcher ..	..	..	..	..	2
Meat inspector ..	..	..	..	..	2
Bacon factory employee ..	..	..	..	..	2
Veterinary surgeon ..	..	..	..	..	2
Skin classer ..	..	..	..	..	1
Housewife ..	..	..	..	..	1
<b>Total</b>	..	..	..	..	12

## LEPTOSPIROSIS (POMONA TYPE)—(Total 36).

Dairy farmer ..	..	..	..	..	8
Dairy hand ..	..	..	..	..	2
Farmer ..	..	..	..	..	3
Banana grower ..	..	..	..	..	1
Pig farmer ..	..	..	..	..	2
Piggery worker ..	..	..	..	..	3
Slaughterman ..	..	..	..	..	2
Meat worker ..	..	..	..	..	3
Cleaner at abattoirs ..	..	..	..	..	1
Meat inspector ..	..	..	..	..	1
Milk vendor ..	..	..	..	..	1
Railway worker ..	..	..	..	..	1
Housewife ..	..	..	..	..	1
Schoolchild ..	..	..	..	..	1
Council sewerage worker ..	..	..	..	..	1
Carpenter ..	..	..	..	..	1
Station hand ..	..	..	..	..	1
Not known ..	..	..	..	..	3
<b>Total</b>	..	..	..	..	36

## LEPTOSPIROSIS (MITIS TYPE)—(Total 4).

Dairy farmer ..	..	..	..	..	2
Pig farm labourer ..	..	..	..	..	1
Not known ..	..	..	..	..	1
<b>Total</b>	..	..	..	..	4

## LEPTOSPIROSIS (TYPE NOT DETERMINED).

Dairy farm foreman ..	..	..	..	..	1
<b>Total</b>	..	..	..	..	1

## CLASSICAL WEIL'S DISEASE—(Total 7).

Electrical worker ..	..	..	..	..	1
Greenkeeper at bowling green ..	..	..	..	..	1
Fruit cannery employee ..	..	..	..	..	1
Wool scourer ..	..	..	..	..	1
Housewife ..	..	..	..	..	1
Schoolgirl ..	..	..	..	..	1
Unemployed ..	..	..	..	..	1
<b>Total</b>	..	..	..	..	7

## MURINE TYPHUS—(Total 13).

Storeman, produce store ..	..	..	..	..	2
Farmer ..	..	..	..	..	2
Baker ..	..	..	..	..	1
Horse trainer ..	..	..	..	..	1
Broom maker ..	..	..	..	..	1
Commission agent ..	..	..	..	..	1
Policeman ..	..	..	..	..	1
Clerk ..	..	..	..	..	1
Housewife ..	..	..	..	..	1
Domestic ..	..	..	..	..	2
<b>Total</b>	..	..	..	..	13

## TICK TYPHUS—(Total 1).

Scrub feller ..	..	..	..	..	1
<b>Total</b>	..	..	..	..	1

#### GENERAL.

A look at the record of work done during the year and a comparison with work performed last year will show that the activities of this section have increased by about 25 per cent. This has placed an additional burden on all concerned.

Unfortunately, it must not be forgotten that the main purpose of a Public Health Department is the prevention of disease and it must also not be forgotten that work and long hours of duty do not necessarily, in themselves, accomplish such an end.

As has been pointed out before, most of the work in this Section is really spent in reassuring patients and groups of employees that they are not suffering from occupational diseases. The main reason for this is that, owing to a set of circumstances—the relative innocuousness of our secondary industries and the shallowness of our mines—very few industrial hazards exist in this State, and what there are are adequately policed by Inspectors of the Department of Mines, of the Department of Labour and Industry and of

this Department. In other words, large sums of money and many hours of time cannot be spent in preventing diseases which, for the most part, do not exist.

It is hoped that in the coming year action will be taken to investigate the prevention of accidents. The problem is as yet unknown and the first step is to make detailed inquiries into a cross section of individual cases of accidents to determine what types of accidents are most likely to be amenable to preventive measures. When the problem is known a conference of all persons concerned will be convened in the hope that this preventable loss of life will be reduced.

#### CONCLUSION.

This report is brought to a conclusion by acknowledging the help received from officers of the other Departments—the Department of Labour and Industry and the Department of Mines in particular—and officers of the Queensland Institute of Medical Research and the various laboratory services in this Department.

#### WEIL'S DISEASE CAMPAIGN.

The area under the control of Weil's disease inspectors includes the mill areas of Goondi, South Johnstone, Mourilyan, Babinda, Mulgrave, Tully, Victoria, and Macknade, but other districts are visited when necessary.

In the "slack" season between January and May, farm to farm inspections are carried out, particularly those situated in low areas where water accumulates. The farmers are instructed in the measures necessary to prevent rat breeding, and the clearing of headlands, the burning of rat harbourage and destruction of secondary growth is insisted upon. Attention is also given to the hygiene of the farms, especially in the region of the cane barracks and in or near the canefields. This becomes more important as the season progresses as many newcomers to the district come from countries where hygiene standards are lower than ours.

From May to December all efforts are directed to the prevention of disease, mainly leptospirosis. Before the start of the cutting season, consultations take place between the inspectors, mill field staff, and farmers as to which areas are the safest to commence cutting. Cutting on farms adjacent to creeks and lowlying areas is postponed until later in the season in order to give the ground a better opportunity to dry out. A wet winter causes upset of schedule as it is necessary to wait for a drying out period to allow burning. In such cases the gangs are transferred to farms situated on higher ground.

General heavy rains were registered during June and July, but the subsequent months were comparatively dry. The number of cases of leptospirosis showed a decrease on the previous year, the greatest incidence again occurring among the cane cutters. Many of these men contribute to their infection because of failure to heed the warnings given in regard to the wearing of boots and suitable clothing.

The inspectors co-operate with officers of the Field Stations of the Queensland Institute of Medical Research in the investigation of fevers of unknown origin. Two hundred and eighty fever cases were investigated during the twelve

months, and field inspections of the suspected areas of infection carried out. Assistance is also given in the follow up of patients, particularly in regard to arranging for the collection of blood samples.

It was noted that a large number of patients suffering from fevers of unknown origin came from new sugar lands but it is thought that, as the land is cleared and improved, there will be a decrease in incidence from these areas.

Rat control measures carried out by the various Pest Boards during the year have in the main been effective. Farmers in some mill areas experienced difficulty in obtaining baits from the mills. Unfortunately it is considered in some quarters that rat control is of secondary importance in the control of leptospirosis and this is accentuated by the time taken in carrying out other duties which the Pest Boards' officers are required to perform.

For some years past, strychnine, arsenic, and zinc phosphide have been in use as additional bases for baits. During the past twelve months, however, thallium sulphate wheat baits, and phosphorus bread baits have been the only medium used. The number and type distributed in the various mill areas are shown in Table LXX.

It is considered that some Boards could, with profit to themselves, devote more attention to the period and the method of distribution. Large sums spent on rat control do not necessarily mean efficiency. The several Local Authorities have made baits available to householders and stores, and have regularly baited rubbish tips and other likely rat breeding grounds, in addition to cutting and burning off rat harbourage on roads and reserves.

No cane was left unharvested at the season's end through application of the Regulations, and no major disputes occurred. Friendly relations were maintained with the various interests associated with the control of leptospirosis and full co-operation was received from the officers of the several organisations associated with the sugar industry.

TABLE LXVII.

Mill Areas.	Area Harvested.	Cane Crushed.	Total Cane Burned.		Burned under Health Regulations.	
			Acres.	Tons.	Acres. (Including under 10 tons per acre)	Tons.
South Johnstone .. ..	13,516	379,065	13,437	376,547	422	11,194
Goondi .. ..	9,934	270,214	9,909	269,558	442	12,036
Mourilyan .. ..	9,600	239,376	9,590	239,143	8	550
Tully .. ..	14,043	399,207	13,994	397,809	3,498	99,452
Babinda .. ..	13,085	311,231	13,062	310,656	1,170	27,826
Mulgrave .. ..	12,389	323,836	12,359	323,044	4,825	125,943
Victoria .. ..	18,153	493,057	18,120	492,323	490	3,585
Macknade .. ..	13,672	358,724	13,651	358,326	526	5,440
Hambledon .. ..	12,031	321,452	12,011	320,869	..	..
Invicta (Ingham Line) .. ..	3,925	97,383	3,925	97,383	748	14,975
Totals .. ..	120,348	3,193,545	120,058	3,185,658	12,129	301,001

TABLE LXVIII.

Mill Areas.	Farms Inspected.	Fields Inspected.	Acres Inspected.	Fields Burned.	Cane-cutters signed on.
South Johnstone .. ..	504	540	3,819	72	495
Goondi .. ..	412	425	3,865	54	360
Mourilyan .. ..	59	65	515	2	279
Tully .. ..	1,281	1,340	10,509	134	463
Babinda .. ..	559	584	4,511	142	400
Mulgrave .. ..	165	172	1,561	51	403
Victoria .. ..	11	13	115	..	600
Macknade .. ..	10	14	120	..	475
Hambledon .. ..	4	5	61	..	420
Invicta (Ingham Line) .. ..	6	9	98	..	154
Totals .. ..	3,011	3,167	25,174	455	4,049

TABLE LXIX.

FEVER CASES ALL AREAS. OCCUPATION AND TYPE.

Field Investigated.

—	Leptospirosis.	Serub Typhus.	Murine Typhus.	Q Fever.	Brucellosis.	P.U.O.
Canecutters .. ..	18	2	..	..	..	36
Timber workers .. ..	5	1	..	..	..	7
Farmers .. ..	5	2	..	1	..	22
Mill, L.A. and Tramways ..	2	..	..	..	..	11
Farm labourer .. ..	4	2	..	..	..	17
Women .. ..	..	..	..	..	..	11
Children .. ..	3	..	1	..	1	19
Others .. ..	3	..	..	2	..	33
Totals .. ..	40	7	1	3	1	156

TABLE LXX.

BAITS DISTRIBUTED BY MILL PEST BOARDS FOR RODENT DESTRUCTION.

Numbers and Type.

Mill Areas.	Phosphorus. (On bread.)	Thallium Sulphate. (Wheat).
South Johnstone .. ..	30,000	1,134,000
Goondi .. ..	..	1,012,700
Mourilyan .. ..	1,139,600	3,628,900
Tully .. ..	200,000	400,000
Mulgrave .. ..	320,000	602,300
Babinda .. ..	4,250,000	652,800
Victoria .. ..	..	1,330,000
Macknade .. ..	..	1,024,500
Hambledon .. ..	..	816,896
Invicta (Ingham Line) .. ..	..	63,104
Mossman .. ..	..	573,440
Totals .. ..	5,939,600	11,238,640

## DIVISION OF MATERNAL AND CHILD WELFARE.

Director: H. C. MURPHY, M.B., B.S.

Deputy Director: P. M. JACKSON, M.B., B.S.

Part-time Pre-school Child Health Officer: T. HENRY R. MATHEWSON, M.B., Ch.B., until 31st March, 1954; A. E. PATERSON, M.B., Ch.M., from 1st April, 1954.

Superintendent: D. BARDSTLEY, A.T.N.A., F.C.N.A. (Seconded to the Department of Health and Home Affairs on the 12th February, 1953).

Acting Superintendent: A. JENKINSON, A.T.N.A.

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Introduction — Staff — Prematurity — Vital Statistics—The Year's Work—St. Paul's Terrace Home—St. Paul's Terrace Training School—Clayfield Home—Clayfield Training School—Toowoomba Home—Toowoomba Training School—The Jefferis Turner Home, Ipswich—Jefferis Turner Training School—Rockhampton Home—Rockhampton Training School—Sandgate Home—Rail Car—Ante-natal Clinics—Correspondence Service for Expectant Mothers—Director's Consultant Centre—Pre-School Health Centres—Correspondence Section—Social Welfare Service—Lecture Demonstrations to School Girls—Co-operation with other Services — Medical Students — Newspaper Articles—Publications of the Service—Baby Clinic Social Club—Visitors from Overseas.

Answering various criticisms of the Maternal and Child Welfare Service in England, Dr. Elenora Simpson, Assistant Medical Officer of Health, Maternity and Child Welfare, in a paper on "The Future of Child Welfare Clinics," states *inter alia*:

"With all respects to eminent authorities who think otherwise, I do not believe that it is possible for the preventive work of the present Child Welfare Clinics to be done either by general practitioners or Hospital paediatricians.

"First, because the claims of curative medicine are so urgent, the preventive side will inevitably be swallowed up; secondly, because education in positive health requires a special technique; thirdly, because I would most definitely advance this view, those whose skill and interest it is to treat fully established illness, are not always trained to recognise the earliest symptoms of disease by having seen hundreds of normal children.

"I believe it is absolutely vital to retain the three distinct divisions of the National Health Service, following the individual from the cradle to the grave—Preventive; General Practitioner, and Hospital. These branches fail in their responsibility to the ultimate aims of medicine if they work in water-tight compartments. They succeed as they exchange information with each other so that the patient can obtain the best possible advice for his health."

With the sentiments expressed concerning co-operation of all Services, one is entirely in agreement. But one cannot agree, however, that the general practitioner should not, or could not, assume the public health responsibilities which

are his by virtue of his profession and his position in the community. Has he no contribution to make, either because of lack of knowledge or interest, or ignorance of the work done by the Maternal and Child Welfare Service?

The general practitioner was formerly regarded as the one properly equipped, by virtue of his knowledge of the family and its background, to supervise the health of the family as a whole, and of the younger members particularly. This is still true of country practitioners, but it is doubtful in the case of practitioners in the larger cities and towns.

Many of the large number of medical students now passing through the University will, of necessity, be general practitioners, and it is a matter of gratification to know that Fourth, Fifth, and Final Year medical students are given theoretical and practical instruction in preventive paediatrics. This instruction includes the various activities of the Maternal and Child Welfare Service and should be of particular benefit to them after graduation.

There can be no reason then why the general practitioner cannot participate in the field of preventive medicine. The opportunity is there for him, and the complete co-operation of the Maternal and Child Welfare Service is assured.

This co-operation is vital to all interested in Child Welfare, and this Service is always seeking it. One instance of this is the fact that any infant attending the Centres, and who requires medical attention, is always referred to the patient's own doctor first, unless specialised treatment is necessary.

The continuous supervision of children by the sisters of the Maternal and Child Welfare Service, in close co-operation with the general practitioner, cannot but have a beneficial effect, and particularly on those most vitally concerned, namely, the mothers and their children.

### STAFF.

The nursing staff now numbers 135, which includes five sisters who are relieving those members at present on leave. Of these, 58 are on the permanent staff and 77 on the temporary staff. The staff position is far from satisfactory, and it has been very difficult to staff the centres and homes, particularly in the country areas. Two of the western centres had to be closed during the sisters' annual recreation leave as no suitable relievers were available. One country centre is closed due to lack of suitable accommodation for the sister. A centre is never closed without every effort and avenue being used to obtain staff, but it is necessary for the sisters to have their annual recreation leave, particularly those who have long uncomfortable hours of travel to and from sub-centres.

At these times when there is a world wide nurse shortage, it is difficult for this service to compete with the more attractive nursing services to obtain suitable staff—suitable staff is most necessary as the child welfare nurse plays a very important role in the Public Health Services of this State. She is required to educate and guide parents in the physical and mental development of their children from the antenatal period until school age. If a nurse is not well-trained and experienced in this work and, above all, if she is not interested and keen to help parents, particularly those with their first baby, a great deal of harm can be done and opportunity lost in this very important period of physical and mental development of the future citizens of our State. This applies particularly to centres with only a staff of one.

A child welfare sister must handle each baby as an individual using tact and diplomacy to attract the mother to attend the centre. At the same time she must handle each mother as an individual, assessing the amount of advice and help that this mother requires and can absorb, holding her interest and confidence in the service until the mother has had time to see the satisfactory results that follow the correct advice. Once this is achieved a mother will become very willing and keen to learn and will prove a successful and contented mother who will look forward to a large, happy and healthy family.

If, on the other hand, through lack of, or incorrect help, a mother has experienced anxiety and unhappiness during the care and feeding of her child in the first years of its life, it is often found to be the reason given for the one- or two-children families.

The success of this service depends a great deal upon the efforts of the nursing staff, and to those sisters who are doing successful work to maintain a high standard-efficiency of this service sincere appreciation is extended.

#### INCIDENCE OF PREMATURITY AND PERCENTAGE MORTALITY.

During the past three years at the Brisbane Women's Hospital there were 29,041 live births, of which 1,518 were premature, i.e., between 2 lb. 12 oz. and 5 lb. 8 oz. birth weight, giving a percentage incidence of 5·2 per cent. Of these premature infants, 161 died, representing a percentage mortality of 10·6 per cent. The following table shows the figures for the past three years.

Valid comparisons of the incidence of mortality due to prematurity between different countries cannot be made owing to difference in definition of prematurity. Nevertheless, some interesting excerpts from medical literature are worth recording.

In the May issue of the American Journal of Diseases of Children, Brooks, Cass, and

Chinnock review the mortality of infants due to prematurity in the Premature Centre of the Los Angeles County Hospital for the years 1949 and 1950. During that time there were 1,975 premature infants weighing from 2 lb. 3 oz. to 5 lb. 8 oz. admitted to the centre. Of that number, 1,563 were born in the hospital and 412 outside. The percentage mortality of the total 1,975 admissions was 11·9 per cent. Of the 1,563 born in hospital, the mortality percentage was 9·3 per cent., whilst of the 412 born outside it was 21·1 per cent. The authors stress the need for better obstetrical care.

In the Bulletin of Hygiene, January, 1954, Margaret M. Kerr gives an analysis of prematurity amongst 13,396 babies born at the Glasgow Royal Maternity and Women's Hospital between 1949 and 1952 inclusive. There were 1,520 live born premature babies, giving a percentage rate of 12·1 per cent. These high figures appear to be related to a high proportion of abnormal deliveries. In 1950 nearly half the admissions were unbooked (2,002 out of 4,300), 21·4 per cent. were suffering from toxæmia, forceps were used in 11·4 per cent. and Caesarian section in 5·9 per cent. of all deliveries. "The problem," says Kerr, "is one which should attract the attention of the obstetrician and paediatrician."

Writing in the Practitioner, January, 1950, Richard W. B. Ellis emphasised that prematurity is a common occurrence and is a most important contributory factor to infant mortality. He quotes 10 per cent. of all live births in Scotland (McNeil 1942) and 6·3 per cent. in Birmingham in 1944.

The problem of premature births is primarily one of antenatal care. In nearly 50 per cent. of cases no clearly recognisable cause can be found, and in the remainder toxæmia and twins pregnancies are the most important factor, followed by ante-partum haemorrhage, placenta praevia, foetal deformity, and various maternal conditions (cardiae and respiratory diseases, pyelitis, syphilis).

Leona Baumgartner in the Journal of the American Medical Association, July, 1951, quoted the work of Taylor in the Colorado Program, who found that in every weight group there is a significantly greater mortality for premature infants born from abnormal pregnancies or deliveries, the difference in a group of 477 infants being 8 per cent. for the normals and 37 per cent. for the abnormals. Baumgartner also mentions Eastman's Study of Premature Birth and there again shows the need for good obstetrical care. In Eastman's Study, 24·9 per cent. of his patients who had poor antenatal care or none had premature infants, whilst the incidence in those who had good care was 7·8 per cent.

TABLE LXXI.

Brisbane Women's Hospital.	Live Births.			Premature Births.			Percentage of Live Births.			Deaths of Premature Infants.			Percentage of Mortality Premature Infants.		
	1951.	1952.	1953.	1951.	1952.	1953.	1951.	1952.	1953.	1951.	1952.	1953.	1951.	1952.	1953.
Public Hospital ..	2,967	3,307	3,471	220	208	204	7·7	6·3	5·9	21	32	17	9·0	15·4	8·3
Intermediate ..	6,232	6,564	6,500	283	297	297	4·5	4·5	4·6	35	23	34	12·4	7·7	11·4
Total ..	9,199	9,871	9,971	503	505	501	5·5	5·1	5·25	56	55	51	10·9	10·9	10·2

## VITAL STATISTICS.

*Births.*

Thirty thousand, seven hundred and eighty-two births were registered during the year, a decrease of 171 from the previous year. Fifteen thousand, eight hundred and forty-two males and 14,940 females were born, giving a masculinity rate of 106·0. The natural increase of 19,776 was equal to an increase of 1·58 per cent. of the population compared with 1·62 per cent in 1952.

*Marriages.*

Nine thousand eight hundred and fifty-nine marriages were registered, the marriage rate being 7·8 per thousand mean population compared with 8·1 in the previous year. Minors married during the year numbered 3,757—650 being males and 3,107 females.

## DEATHS.

*Maternal.*

The maternal mortality rate continues to improve, a record low rate of 0·71 per thousand live births being recorded. Twenty-two deaths occurred during the year due to diseases and accidents of pregnancy and childbirth. Of these, 13 followed childbirth and eight were due to diseases and accidents of pregnancy (excluding one abortion). The causes of the 13 deaths due to diseases and accidents of childbirth were as follows:—

Other accidents of childbirth including Caesarian section .. .. ..	4
Puerperal toxæmias and infection during childbirth and puerperium .. ..	4
Haemorrhage of childbirth and puerperium ..	3
Disproportion and malposition of foetus ..	1
Cerebral Haemorrhage in puerperium ..	1

The causes of the eight deaths due to diseases and accidents of pregnancy were as follows:—

Toxæmias of pregnancy .. .. ..	6
Haemorrhage of pregnancy (Ectopic) .. ..	1
Other complications of pregnancy .. ..	1

*Infantile Mortality.*

The infantile mortality rate for the year was 25·0 per thousand live births as compared with 24·9 for the previous year. Seven hundred and sixty-nine infants died during the first year of life as compared with 772 in the previous year. The rate for the metropolitan area was 21·1 as compared with 23·7 in 1952. A decline in deaths from prematurity, congenital malformations, birth trauma, and postnatal asphyxia, and atelectasis was responsible for the improvement in the rate. The sub-tropical rate was 23·9 as compared with 27 in the previous year, due mainly to a marked decrease in deaths due to prematurity. The tropical rate, however, showed an increase, being 32·5 as compared with 23·2 in the previous year. This marked increase was due mainly to a larger number of deaths due to congenital malformations and intracranial and spinal injury at birth.

The marked decrease in the number of deaths due to prematurity, namely 42, is gratifying but is offset by increases in practically all of the other causes of death in the first year of life.

*Deaths of Children Aged One Year and Under Five Years.*

(a) Deaths of children, aged one year and under two years, during the year numbered 86, representing a death rate of 2·9 per thousand children in that age group.

TABLE LXXII.

CAUSES OF DEATHS IN INFANTS UNDER ONE YEAR, QUEENSLAND, 1953.

Cause.	1952.	1953.				Increase or Decrease.
		Metropolitan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified) .. .. ..	187	54	49	42	145	-42
Congenital Malformations .. .. ..	125	35	48	46	129	+4
Postnatal Asphyxia and Ateletasis .. ..	81	29	34	18	81	..
Intracranial and Spinal Injury at Birth ..	65	21	30	22	73	+8
Other Birth Injury .. .. ..	48	10	16	13	39	-9
Pneumonia of Newborn .. .. ..	24	4	14	9	27	+3
Haemolytic Disease of Newborn (Erythroblastosis) .. .. ..	23	10	11	6	27	+4
Neonatal Disorders arising from Maternal Toxaemia .. .. ..	14	8	9	8	25	+11
Haemorrhagic Disease of Newborn .. ..	9	3	5	4	12	+3
Diarrhoea of Newborn .. .. ..	1	1	1	..	2	+1
Other Diseases Peculiar to Early Infancy ..	34	10	13	13	36	+2
Total Diseases of Early Infancy ..	611	185	230	181	596	-15
Gastro-Enteritis and Colitis .. .. ..	27	9	17	6	32	+5
Bronchopneumonia, other and unspecified Pneumonia .. .. ..	23	4	13	14	31	+8
Lobar Pneumonia .. .. ..	5	..	4	4	8	+3
Whooping Cough .. .. ..	1	1	2	..	3	+2
Diphtheria .. .. ..	..	1	..	1	2	+2
All other Causes .. .. ..	105	29	34	34	97	-8
Total Deaths under 1 year .. ..	772	229	300	240	769	-3

(a) Excluding Metropolitan.

TABLE LXXXIII.

CAUSES OF DEATHS IN INFANTS MORE THAN ONE MONTH, BUT LESS THAN TWELVE MONTHS OF AGE—  
QUEENSLAND, 1953.

Cause.	1952.	1953.				Increase or Decrease.
		Metro- politan.	Sub-Tropical. (a)	Tropical.	Total.	
Congenital Malformations .. .. ..	54	18	20	19	57	+3
Postnatal Asphyxia and Atelectasis .. ..	3	..	..	3	3	..
Intracranial and Spinal Injury at Birth ..	1	..	2	..	2	+1
Other Diseases Peculiar to Early Infancy ..	9	2	4	8	14	+5
 Total Pre-natal Causes .. ..	67	20	26	30	76	+9
 Bronchopneumonia, other and unspecified						
Pneumonia .. .. .. ..	23	4	13	14	31	+8
Gastro-enteritis and Colitis .. .. ..	27	9	17	6	32	+5
Whooping Cough .. .. .. ..	1	1	2	..	3	+2
Lobar Pneumonia .. .. .. ..	5	..	4	4	8	+3
Diphtheria .. .. .. ..	..	1	..	1	2	+2
All other Causes .. .. .. ..	91	21	24	23	68	-23
 Total Deaths 4 weeks and Under 1 Year	214	56	86	78	220	+6

(a) Excluding Metropolitan.

TABLE LXXIV.

CAUSES OF DEATHS IN INFANTS UNDER ONE MONTH OF AGE—QUEENSLAND, 1953.

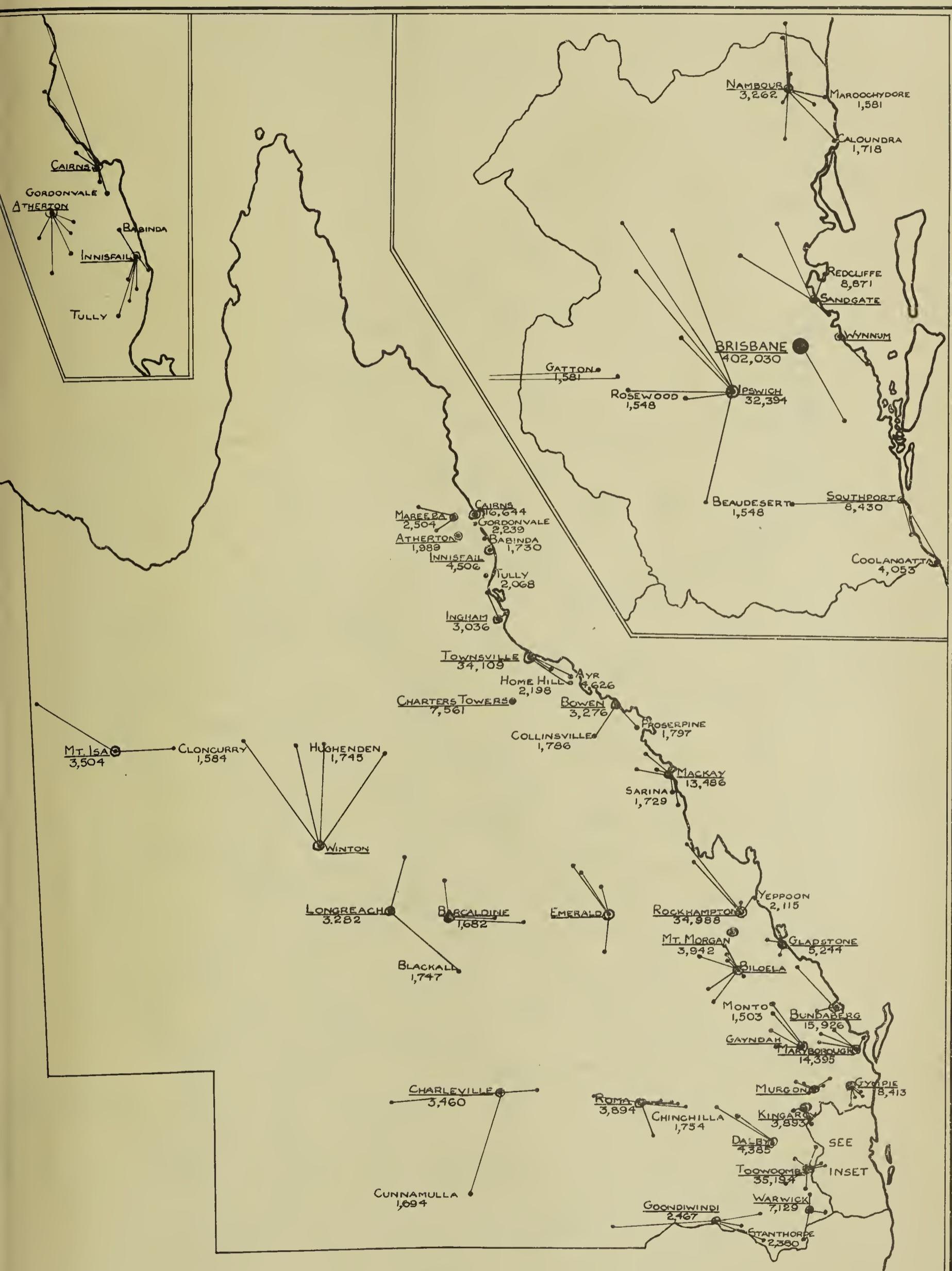
Cause.	1952.	1953.				Increase or Decrease.
		Metro- politan.	Sub-Tropical. (a)	Tropical.	Total.	
Immaturity (unqualified) .. .. ..	186	54	49	42	145	-41
Postnatal Asphyxia and Atelectasis .. .. ..	78	29	34	15	78	..
Congenital Malformations .. .. ..	71	17	28	27	72	+1
Intracranial and Spinal Injury at Birth .. .. ..	64	21	28	22	71	+7
Other Birth Injury .. .. ..	48	10	16	13	39	-9
Pneumonia of Newborn .. .. ..	24	4	14	9	27	+3
Haemolytic Disease of Newborn (Erythroblastosis) .. .. ..	23	10	11	6	27	+4
Neonatal Disorders arising from Maternal Toxaemia .. .. ..	13	8	9	8	25	+12
Haemorrhagic Disease of Newborn .. .. ..	9	3	5	4	12	+3
Diarrhoea of Newborn .. .. ..	1	1	1	..	2	+1
Other Diseases Peculiar to Early Infancy .. .. ..	27	8	9	5	22	-5
Total Pre-natal Causes .. .. ..	544	165	204	151	520	-24
All Other Causes .. .. ..	14	8	10	11	29	+15
Totals .. .. ..	558	173	214	162	549	-9

(a) Excluding Metropolitan.

TABLE LXXV.

## CAUSES OF DEATHS OF PREMATURE (IMMATURE) INFANTS.

# MATERNAL AND CHILD WELFARE SERVICE



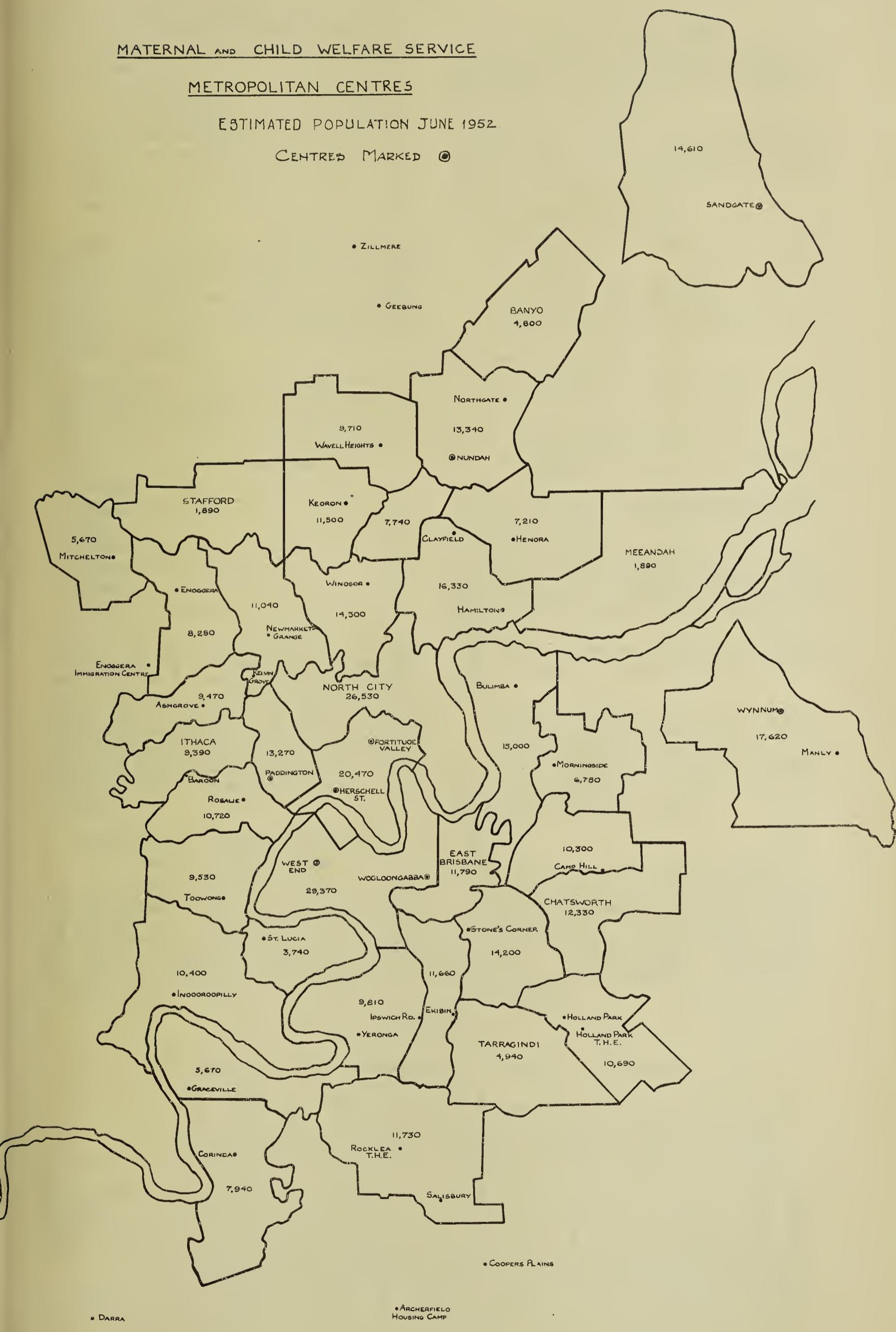


MATERNAL AND CHILD WELFARE SERVICE

METROPOLITAN CENTRES

ESTIMATED POPULATION JUNE 1952.

CENTRES MARKED @





The chief causes of deaths were:—

Accidents .. .. .. ..	21
Pneumonia—	
Bronchopneumonia .. .. 6	
Lobar Pneumonia .. .. 2	10
Other Unspecified .. .. 2	
Congenital Malformations .. .. 7	
Avitaminoses and Nutritional Deficiency States .. .. .. .. 6	
Gastro-enteritis and Colitis .. .. 4	
Bronchitis .. .. .. .. 4	

Of the 21 deaths due to accidents, three were caused by burns and scalds, two by drowning, four by accidental poisoning, two by traffic accident, five by motor vehicle (non-traffic) accidents, one by railway accident, one by machinery accident, two by accidental falls, and two unspecified.

(b) Deaths of children, between two years and under five years, during the year numbered 104, representing a death rate of 1·2 per thousand children in that age group.

The chief causes of deaths were:—

Accidents .. .. .. ..	27
Malignant Neoplasms .. .. ..	14
Bronchitis .. .. .. ..	6
Meningococcal Infections .. .. ..	6
Congenital Malformations .. .. ..	4
Tetanus .. .. .. ..	3
Pneumonia (all kinds) .. .. ..	2

Of the 27 deaths due to accidents, five were caused by motor traffic accidents, five by burns and scalds, two by poisoning, four by drowning, one by fall, one by electrocution, one by an animal, one by non-motor road vehicle accident, one by cutting instrument, one by machinery, one by firearm, and three unspecified. The remaining death was due to complications from a non-therapeutic medical procedure.

#### Accidental Deaths of Children Between One and Fourteen Years.

The accidental deaths of children in this age group show no sign of diminishing, ninety deaths occurring, 55 being male and 35 female. In the following table showing the number of deaths from accidents for the six years 1948 to 1953, amended figures are shown for female deaths in 1952:—

#### THE YEAR'S WORK.

The total number of Centres and Sub-centres throughout the State is 217—53 being in the metropolitan area and 164 in the country.

##### New Centre Established—

On 18th May, 1954, Ayr was established as a Parent Centre. Home Hill and Giru, which had previously been visited from Townsville, will now be visited from Ayr.

##### New Sub-centres Established—

- (1) Clare on 18th May, 1954, serviced from Ayr.
- (2) West Mackay on 8th June, 1954, serviced from Mackay.
- (3) Chermside on 10th June, 1954, visited from Nundah.

##### Sub-centres Approved—

- (1) Millmerran to be visited from Toowoomba.
- (2) Park Avenue to be visited from Rockhampton.
- (3) Tinaroo Falls Dam to be visited from Atherton.

The total number of attendances was 362,008. This is a decrease of 10,318 as compared with the previous year.

This decrease was caused by two factors, namely the cyclonic weather accompanied by severe floodings in January, February, and March, and the severe incidence of influenza in June.

This is shown by the attendance for the first half of the year as compared with the second half:—

Attendance from July 1st to December 31st, 1953 .. ..	188,603
Attendance from January 1st to June 30th, 1954 .. ..	173,405

The total number of mothers and babies admitted to the Homes was:—

Mothers .. .. .. ..	339
Babies .. .. .. ..	840

#### ST. PAUL'S TERRACE HOME, BRISBANE.

Two hundred and twenty-two babies and 118 mothers were admitted during the year. Babies have been admitted from the following country centres:—Colinton, Stanthorpe, Miles, Gatton, Beerwah, Landsborough, Millmerran, Caloundra, Dalby, Barcaldine, Goondiwindi, and Clermont.

TABLE LXXVI.

#### ACCIDENTAL DEATHS OF CHILDREN (AGED 1-14 YEARS) IN QUEENSLAND.

	1948.		1949.		1950.		1951.		1952.		1953.		Total.
	Male.	Female.											
Road Accidents ..	13	12	14	8	9	9	13	16	15	10	15	9	143
Firearms ..	2	1	2	..	..	..	7	..	1	1	3	1	18
Drowning ..	9	1	21	3	19	7	16	7	10	7	12	4	116
Falls ..	8	3	6	2	4	1	2	..	2	1	3	2	34
Other Accidents ..	11	6	27	12	17	11	21	16	29	12	22	19	203
	43	23	70	25	49	28	59	39	57	31	55	35	514
Totals .. ..	66		95		77		98		88		90		514

#### ST. PAUL'S TERRACE TRAINING SCHOOL.

In December, 1953, 31 candidates sat for examination, two failing to satisfy the examiners. In June, 1954, 30 candidates sat and there were four failures.

#### CLAYFIELD HOME, BRISBANE.

One hundred and ninety-five babies and 83 mothers were admitted during the year. A bowel infection caused by the introduction of *E. coli III*. which affected many babies caused a temporary closure of the Home from 30th March until 2nd April.

The appearance of the Home has been enhanced by the erection of a brick wall and piping fence facing Riverton Street. The fences at the back and sides have been renovated and a new back gate erected.

#### CLAYFIELD TRAINING SCHOOL.

Twenty-one candidates presented for examination in November, all being successful. In April, 20 candidates sat for examination, all but one satisfying the examiners. Graduation ceremonies were held at Centaur House instead of at the Home as was previously done.

#### TOOWOOMBA HOME.

There was an increase in numbers admitted during the year, there being 124 infants and 50 mothers admitted as compared with 106 infants and 34 mothers in the previous year.

Mothers and babies have been admitted from over a wide area, including Cairns, Blackall, Boggabilla, East Cooyar, Yelarbon, Goombungee, as well as Toowoomba and nearby districts.

Infants admitted during the year included cases of prematurity, a large number for the restoration of breast feeding, cases of malnutrition, anaemia, persistent vomiting, Pink disease, and a number of twins. The number of artificially fed undernourished children has been high. One infant whose birth weight was 7 lb. 6 oz. was admitted at the age of 19 weeks weighing 7 lb. 13 oz. This infant made excellent progress and was discharged at 29 weeks of age weighing 16 lb. 6 oz.

The erection of the new staff quarters is nearing completion. That portion of the Home which was previously used by the nursing staff will be available for mothers.

#### TOOWOOMBA TRAINING SCHOOL.

During the year 16 Child Welfare Assistant Trainees sat for examination and were successful. Graduation ceremonies were held in November and April.

#### THE JEFFERIS TURNER HOME, IPSWICH.

During the year 93 babies and 48 mothers were admitted, an increase of 26 babies and 13 mothers over the previous year.

Included in the babies admitted were eight sets of twins, 37 babies under 6 lb., 12 of whom were 4 lb. and under, the smallest being 3 lb. 7½ oz. Three sets of twins who afterwards attended the Centre at Ipswich were fully breast fed for nine months.

#### JEFFERIS TURNER TRAINING SCHOOL, IPSWICH.

Eight trainees sat for examination in the first term and all were successful. In the second grade ten sat and eight passed. Of the total

18 successful trainees, seven are already training as general nurses and a further seven have made application to do so. Graduation ceremonies were held in December, 1953, and April, 1954.

#### ROCKHAMPTON HOME.

During the year there have been 40 mothers and 81 babies admitted. Of the 81 babies, 16 were premature and of these there were four sets of twins.

On the 14th October a severe case of Pink Disease was referred from the Mount Morgan District Hospital. This child was a most difficult feeder. Her admission weight was 17 lb. and it was not until January that improvement began. She was discharged on 31st March, weighing 21 lb. The parents presented the Home with a Margaret Tarrant nursery picture as a token of gratitude.

#### ROCKHAMPTON TRAINING SCHOOL.

Eight trainees sat for examination in December and all were successful. One trainee in this grade did not sit for examination owing to ill health, but sat in April and was successful.

Eight trainees presented for examination in April, seven being successful.

Graduation ceremonies were held at the end of each grade's term of training.

#### SANDGATE HOME.

The year opened with 50 children in the Home representing 24 families.

During the year 724 children were admitted representing 276 families.

Thirteen of these families returned once, and one family returned twice during the year.

Children admitted were—

- (a) Between the ages of one and five years—191 boys, 152 girls;
- (b) Between the ages of five and ten years—191 boys, 154 girls;
- (c) Over the age of ten years—18 boys, 18 girls.

Total—400 boys, 324 girls.

Children spent a total of 15,022 days in residence, which gives a daily average of 41·12 and an average of 20·7 days residence for each child.

During the year 34 children were transferred to hospital, 16 returned to the Home; the remainder were discharged to their own homes.

Measles and Mumps in the early part of the year accounted for most of those sent to hospital. During the latter part of the year, except for the usual colds, the children have had quite good health.

On Christmas Eve a party was given for the children, with a Christmas tree loaded with toys, each child received a toy, sweets and ice cream, which were supplied by the "Courier-Mail" Toy Fund and the Department. The Home was tastefully decorated by members of the staff and a happy Christmas was spent by all.

During the week of the visit of the Royal visitors, the children were well catered for. The Junior Chamber of Commerce arranged for a bus to call, which took the children to view the city illuminations. This was a wonderful

HEALTH AND MEDICAL SERVICES.



Toddler's Play Room, Sandgate Home.



Children's Play Room, Sandgate Home.



evening for the children, especially so for a few who were from the country and had never previously seen the "big lights." The R.A.C.Q. took thirty of the older children to the Exhibition Grounds on the day of the Civic Reception to the Royal visitors, which was an unforgettable experience for them.

At Easter time the children attended the R.A.C.Q. picnic held at the Wading Pool and greatly enjoyed the novelties and gaiety, also the afternoon tea which was provided.

Picnics have also been arranged by the Sandgate Baptist Sunday School at Christmas and on Labour Day.

We are indeed grateful to the teachers from the Baptist Sunday School who conduct Sunday school for the children each Sunday afternoon, also to the Society of St. Vincent De Paul whose members call each Sunday morning to escort the Catholic children to and from Mass.

The new building is now well advanced and we are looking forward to "opening day." This is going to be a wonderful asset and should make the working of the Home much easier and more comfortable. The dining room space will especially be welcomed, as will the recreation rooms, especially during the wet weather.

#### SANDGATE HOME—BABY WARD.

During the year 125 babies were admitted to the Home. The infants spent 3,848 days in the Home, giving a daily average of 10·54.

Nine babies returned a second time during the year.

The Home has been almost free of any infection during the year and, except for colds, the babies have been a healthy lot and there have been only five transferred to hospital.

Five were transferred to the Wooloowin State Home during the year.

Outside venetian blinds have been hung outside the isolation ward louvres, which has made the ward much more comfortable during the summer.

The Department supplied a large play-pen (16 ft. by 8 ft.) for the toddlers and this has proved a wonderful asset, enabling the toddlers to spend more time in the fresh air and sunshine.

#### RAIL CAR.

The present itinerary includes Winton, Dajarra, Julia Creek, Maxwelton, Kajabbi, and Richmond.

Mothers and babies attended at various sidings not included in the regular itinerary.

Mothercraft classes were held at Winton, Richmond, Julia Creek, and Hughenden.

The attendances for the year were 3,483.

#### ANTE-NATAL SECTION.

There has been an overall increase in ante-natal attendances. A decrease in Caboolture attendances was balanced by increases at the other clinics.

Mothercraft lectures were continued with satisfactory attendances. Classes in ante-natal and post-natal physiotherapy have been commenced at the Woolloongabba and Fortitude Valley clinics.

The number of patients returning for post-natal examination is still disappointing. Only 40·2 per cent. of patients attended post-natally.

To gain some information as to the relation of breast feeding to ante-natal health, a survey of fifty mothers who had attended Maternal and Child Welfare Ante-natal Clinics was conducted. The results obtained are shown in Table LXXVII.

Although the number of patients was small, it represented an average cross section of patients. All these patients had an adequate ante-natal diet. Of the ten patients who fully or partly breast-fed their babies for nine months, eight were in normal health and two were anaemic from the second trimester. The cause of weaning in every case in the other groups was failure of lactation. In only one case abnormality of the nipples was a contributing factor.

Conditions complicating pregnancy were as follows:—

Condition.	1. Ante-natal.	Number of Cases.
Toxaemia .. .. .. .. ..	17	
Anaemia .. .. .. .. ..	10	
Rhesus Negative .. .. .. .. ..	35	
(2 showed increasing antibody titre).	(16·3%)	
Hydramnios .. .. .. .. ..	2	
Prolapse .. .. .. .. ..	2	
Venous Thrombosis .. .. .. .. ..	1	
Hypertension .. .. .. .. ..	6	
Pyelitis .. .. .. .. ..	1	
Hypoproteinemia .. .. .. .. ..	29	
Threatened miscarriage .. .. .. .. ..	3	
Miscarriage .. .. .. .. ..	2	
Contracted pelvis .. .. .. .. ..	1	
Breech birth .. .. .. .. ..	2	
Twin pregnancy .. .. .. .. ..	3	
Premature labour .. .. .. .. ..	3	
(1 due to hypertension ; 2 occurred in rhesus negative patients with rising antibody titre)		
Caesarian section .. .. .. .. ..	2	
(due to failed trial of labour)		
Stillbirths .. .. .. .. ..	3	
(1 followed precipitate birth ; 1 intrauterine death of foetus ; 1 premature labour).		
Condition.	2. Post-natal.	Number of Cases.
Postpartum Haemorrhage .. .. .. .. ..	1	
Rectocele .. .. .. .. ..	2	
Cystocele .. .. .. .. ..	4	
Cystocele and Rectocele .. .. .. .. ..	5	
Pyelitis .. .. .. .. ..	1	
Erosion of cervix .. .. .. .. ..	7	
Subinvolution .. .. .. .. ..	3	
Ventral Hernia .. .. .. .. ..	2	

TABLE LXXVII.

Duration of Breast Feeding.	Baby Fully Breast Fed.	Baby Partly Breast Fed.	Ante-natal Health.
9 months .. .. .. ..	3	7	2 mothers were anaemic ante-natally ; 1 had Caesarian Section
More than 6 months .. .. ..	4	13	Average
More than 3 months .. .. ..	21	12	Average
Less than 1 month .. .. ..	9	7	1 elderly multipara ; 1 chronic bronchiectasis ; 1 toxæmia ; 1 retracted nipples
Weaned before leaving hospital ..	6	..	Includes patients in previous group

## ANTE-NATAL CLINICS.

## Attendances at Metropolitan Centres—

Fortitude Valley .. .. ..	717
Woolloongabba .. .. ..	1,188
Caboolture .. .. ..	230

There has been an increase in the attendances at the Fortitude Valley and Woolloongabba Ante-natal Clinics.

Lectures on Mothercraft and Hygiene of Pregnancy are given and are available to all expectant mothers, especially during a first pregnancy.

## CORRESPONDENCE SERVICE FOR EXPECTANT MOTHERS.

Circular letters forwarded to expectant mothers .. .. ..	6,077
Response to circular letters .. ..	1,618
Circular letters forwarded to expectant mothers (other than above) re "Expectant Mother" books ..	2,315
Serial letters to expectant mothers ..	10,463
Letters received from expectant mothers ..	475
Special letters of advice sent on request ..	174
Copies of "The Expectant Mother" sent on request .. .. ..	1,552
Requests from country Centres and Hospitals for "The Expectant Mother" book .. .. ..	1,552
Copies of "Ante-natal and Post-natal Exercises" sent on request to expectant mothers .. .. ..	1,613
Requests from country Centres for "Ante-natal and Post-natal Exercises" .. .. ..	248
Copies of Baby Patterns sent on request ..	179
Copies of Maternity Belt patterns sent on request .. .. ..	54

The Correspondence Service to expectant mothers has steadily increased, and a number of smaller country Hospitals have been contacted and responded with monthly lists of expectant mothers.

Many requests are received for a supply of "Expectant Mother" books to be distributed from the Maternity Sections of Hospitals. This has shown a marked increase from the previous year.

## DIRECTOR'S CONSULTANT CENTRE.

Attendances for the year ended June, 1954, were as follows:—

Number of children examined for admission to Sandgate Home ..	1,326
Number of children examined for admission to Red Cross Home, Margate .. .. ..	495
Number advised per phone .. ..	135
Attendances at Director's Consultant Centre for advice .. .. ..	2,205
Total number of children examined or advised at Centre .. .. ..	4,161

This shows an increase in the number of infants and toddlers whose feeding, management or behaviour has proved difficult and who were referred to the Director by Sisters in Charge of metropolitan and country Centres and by private medical practitioners. There has been an increase in the number of children medically examined and swabbed for admission to the Sandgate Home. In addition to these, as has been the practice in the past, all children admitted to the Red Cross Home, Margate, during the year were medically examined and had throat swabs taken by the Director or Deputy Director.

Of the throat swabs taken none showed positive diphtheria organisms.

One hundred and thirty blood counts, 22 urine specimens, nine cellophane swabs, seven specimens of faeces for fat analysis, and 96 rectal swabs were examined at the Laboratory of Micro-Biology and Pathology.

Forty-seven children and babies were referred to hospital, 17 to their own doctor, 19 to X-Ray Department, seven to Radium Clinic, three to Psychiatry Clinic, and three to Allergy Clinic.

Of the 325 babies and toddlers from Director's Consultant Centre and Pre-School Health Centres who had blood counts done, 120 had Haemoglobin levels below 10 gms. per 100 mls.

Of the 96 rectal swabs examined, six gave positive swabs for Salmonella and seven for *E. coli III*.

## PRE-SCHOOL HEALTH CENTRES.

At the fifteen centres and six kindergartens, children from the age of one to six years were examined twice during the year.

The total number of examinations made during the year was 4,421, of which 1,985 were first examinations and 2,436 were subsequent examinations. The total examinations during the previous year numbered 4,388.

The following table shows the main abnormalities found at half-yearly examinations:—

TABLE LXXVIII.

Enlarged tonsils .. .. .. ..	821
Knock knees .. .. .. ..	608
Bow legs .. .. .. ..	164
Flat feet .. .. .. ..	152
Carious teeth .. .. .. ..	80
Intoeing .. .. .. ..	70
Anorexia .. .. .. ..	61
Adenoiditis .. .. .. ..	57
Umbilical Hernia .. .. .. ..	53
Skin rash .. .. .. ..	53
Thread worms .. .. .. ..	40
Tonsillitis .. .. .. ..	39
Stained teeth .. .. .. ..	34
Systolic murmur .. .. .. ..	32
Allergy .. .. .. ..	20
Impetigo .. .. .. ..	15
Nocturnal enuresis .. .. .. ..	12
Urticaria .. .. .. ..	11
Bronchitis .. .. .. ..	11
Eczema .. .. .. ..	11
Chalky teeth .. .. .. ..	10
Squint .. .. .. ..	10
Ringworm .. .. .. ..	9
Boils .. .. .. ..	9
Pronated feet .. .. .. ..	8
Asthma .. .. .. ..	8
Naevus .. .. .. ..	7
Hives .. .. .. ..	7
Undescended Testes .. .. .. ..	6
Cyst .. .. .. ..	5
Otitis media .. .. .. ..	5
Hydrocoele .. .. .. ..	4
Prolapsed Rectum .. .. .. ..	3
Congenital Heart .. .. .. ..	3
Geographical Tongue .. .. .. ..	3
Fissure (Anal) .. .. .. ..	2
Nasal obstruction .. .. .. ..	2
Measles .. .. .. ..	2
Cleft Palate .. .. .. ..	2
Pseudo Hypertrophic Muscular dystrophy ..	1
Carbuncle .. .. .. ..	1
Papilloma .. .. .. ..	1
Haematoma .. .. .. ..	1
Catarrh .. .. .. ..	1
Cellulitis .. .. .. ..	1
Chicken pox .. .. .. ..	1
Epilepsy .. .. .. ..	1
Tinea .. .. .. ..	1
Angioma .. .. .. ..	1
Laryngitis .. .. .. ..	1
Cardiac displacement .. .. .. ..	1

HEALTH AND MEDICAL SERVICES.



Maternal and Child Welfare Home, Toowoomba.



Maternal and Child Welfare Home, Toowoomba.



One hundred and ninety-five blood counts, 41 specimens of urine, eight cellophane swabs were examined at the Laboratory of Micro-Biology and Pathology.

Twenty-five children were referred to their own doctors for treatment, 24 to hospital, 29 to X-Ray Department, one to Psychiatrist, five to Radium Clinic, three to Speech Therapy Clinic, one to Chest Clinic, one to Physio-therapist, and 11 to Dentists.

#### COUNTRY CENTRES.

The total number of examinations at country centres are as follows:—

Centre.	New Patients.	Subsequent Visits.	Total Visits.
Cairns .. ..	194	265	459
Rockhampton .. ..	83	33	116
Toowoomba .. ..	58	116	174
Townsville .. ..	130	150	280

The following table shows the main abnormalities found at half-yearly examinations:—

TABLE LXXIX.

Knock knees .. .. .. ..	16
Umbilical Hernia .. .. .. ..	14
Enlarged Tonsils .. .. .. ..	11
Flat feet .. .. .. ..	8
Infantile Eczema .. .. .. ..	5
Bow legs .. .. .. ..	4
Carious teeth .. .. .. ..	3
Nocturnal Enuresis .. .. .. ..	3
Squint .. .. .. ..	2
Threadworms .. .. .. ..	1
Colitis .. .. .. ..	1
Congenital Heart .. .. .. ..	1
Systolic Murmur .. .. .. ..	1
Impetigo .. .. .. ..	1
Coeliac disease .. .. .. ..	1
In-toeing .. .. .. ..	1
Skin rash .. .. .. ..	1
Scoliosis .. .. .. ..	1

Twenty-nine children were referred to own doctor, seven to dentist and two to hospital.

Owing to the small attendance of clinic Toddlers attending Rosalie Centre, permission was given to transfer same to "The Hanlon Clinic," Paddington, which is the parent centre. This arrangement is proving most satisfactory. Last clinic at Rosalie was held on 16th November, 1953, and the first held at Paddington on 30th November, 1953.

Toddlers' Clinic was held in the new building at Ipswich for the first time on 28th April, 1954, and is quite satisfactory as it enables the staff of the Ipswich Centre to hold their clinic without overcrowding, noise and moving of furniture as was necessary previously.

#### *Kindergartens controlled by the Creche and Kindergarten Association.*

Because the building in which they were housed was condemned, Woolloongabba Creche and Kindergarten closed on 9th October, 1953, the children being transferred to the Valley and Paddington Kindergartens. Lady Goodwin Kindergarten did not open after the Christmas school vacation.

Children attending Valley, Paddington, West End and Rosalie Kindergartens were medically examined twice during the year.

Prior to the transfer of Toddlers' Clinic from Rosalie to Paddington, children from Rosalie Kindergarten were examined at the clinic.

#### *Kindergartens affiliated with the Creche and Kindergarten Association.*

Community Kindergarten closed 11th December, 1953. At the request of the Director of Wynnum Kindergarten, permission was granted for the medical and nursing staff of this Department to visit the Kindergarten and examine the children. They were medically examined for the first time on 3rd and 7th June, 1954.

Children from Ashgrove Kindergarten, Devoy street, are medically examined at Ashgrove Toddlers' Clinic.

#### *Kindergartens directed by Department of Public Instruction, State.*

Children attending West Ashgrove Kindergarten were medically examined twice during the year. Children from Ipswich Kindergarten attend Toddlers' Clinic, Ipswich, for half-yearly medical examinations.

Toddlers' Clinics in Metropolitan area were closed from December 11th, 1953, to January 15th, 1954.

#### CORRESPONDENCE SECTION.

Birth notifications received from Centres show an increase from last year's numbers; also there has been a greater response to circulars forwarded.

A marked increase in letters concerning feeding and management have been received. Fewer letters from towns in New Guinea have been received as mothers are able to get advice from their own hospitals now.

TABLE LXXX.

					Year Ending 30-6-54.	Year Ending 30-6-52.
Number of Birth Notifications received .. .. .. ..	..	..	..	..	3,622	3,414
Number of circulars posted—						
(1) Within reach of Centre .. .. .. ..	..	..	..	..	1,219	1,020
(2) Not within reach of Centre .. .. .. ..	..	..	..	..	2,403	2,405
Number of follow-up circulars posted .. .. .. ..	..	..	..	..	2,266	2,086
Letters to Correspondence in response to Circular No. 2 .. .. .. ..	..	..	..	..	676	587
Visits to Centres in response to Circular No. 1 .. .. .. ..	..	..	..	..	..	..
Letters of advice re feeding and management sent on request .. .. .. ..	..	..	..	..	1,478	1,246
Number of "Care of Mother and Child" sent on request .. .. .. ..	..	..	..	..	829	829
Number of extra "Care of Mother and Child" sent on request .. .. .. ..	..	..	..	..	313	304
Number of Six Month Greeting Cards sent re Diphtheria .. .. .. ..	..	..	..	..	3,149	2,752
Number of Birthday Cards sent during year .. .. .. ..	..	..	..	..	146	80
Number of telephone calls re feeding and management .. .. .. ..	..	..	..	..	116	..

Mothers in various islands and Mission stations are still anxious to get help through literature sent, whilst others still correspond regularly.

Diphtheria leaflets are sent regularly each month to country mothers.

List of births from the Brisbane Women's Hospital and Private Hospitals in Brisbane are sent regularly each month, together with the death notifications, to the Health Department of the City Council so regular leaflets advising regarding immunisation against diphtheria can be forwarded to these mothers.

Country mothers anticipating a visit to the city phoned for further advice requesting appointment for a visit to the Medical Director and to the Correspondence Section.

#### SOCIAL WELFARE SERVICE.

With the growth of the city extending into outlying suburbs, there are many new homes, not numbered, in distant and scattered areas, and many small babes, frail babes, and a number of twins in these homes, which necessitates further travelling by the cars for the care of these infants. Being new districts, many of the streets are not yet named and the roads are often in poor condition, and also it is difficult to get to the homes because of the unmade roads, which often causes delay in the finding of the place required.

The incidence of small, premature, and frail babes who are artificially fed seems to be very large. Many mothers do not seem to have much idea of breast expression and say they never could express much milk while in hospital, but shown how to express, soon manage quite well. This could be one reason for the mother's failure to establish a supply for the babe too frail to go to the breast. The greater number are due to failure of lactation but some are weaned by the doctor attending the mother.

Medical students have been fairly regular in attendance. Child Welfare trainees have appeared interested in the work. Many have said they did not realise the difficulties which could be met with in the homes, also they did not realise that some people live in such poor housing conditions.

Total Visits 3,865.

#### LECTURE DEMONSTRATIONS TO SCHOOL GIRLS.

The mothercraft teaching for the school year 1953 was much the same as the previous year, except that a class was held at Ipswich Girls' Grammar School and no class at the North Brisbane Intermediate. This school had moved to a smaller building and there was no suitable classroom available.

At the beginning of the school year 1954, new secondary schools were opened in the suburbs, and mothercraft classes have been arranged at the following new high schools—Banyo, Indooroopilly, Cavendish Road, and Salisbury.

Teaching girls mothercraft during their sub-junior year is most satisfactory. Unfortunately a number of girls do not attend a secondary school, and so miss these lessons.

Mothercraft lessons were again given by the sister on the Rail Car in all centres at which the car called, at both State and Convent schools.

The sister at Mount Morgan had classes at the Intermediate School and convent.

In the metropolitan centres the usual functions were held towards the end of the school year when the certificates and prizes were presented. In the country centres the sister on the Rail Car this year presented certificates and prizes at functions held at the schools, and at Mount Morgan they were presented at the school breaking-up ceremony.

TABLE LXXXI.  
REPORT FOR SCHOOL YEAR ENDING 1953.

Date.	School.	Number in Class.	Number sat for Examination.	Number obtaining over 60 per cent.
February .. ..	Petrie Terrace .. .. .. ..	19	17	17
April .. ..	Milton .. .. .. ..	50	46	43
	Rainworth .. .. .. ..	19	18	18
	South Brisbane Intermediate .. .. .. ..	46	34	31
May .. ..	Ipswich Technical College .. .. .. ..	70	57	53
July .. ..	Ipswich Girls' and Infants' .. .. .. ..	34	32	32
	Domestic Science High—			
	Sub-Seniors .. .. .. ..	16	15	15
	Practical Juniors .. .. .. ..	40	38	32
	State Commercial High .. .. .. ..	100	55	44
	Brisbane Girls' High .. .. .. ..	14	14	13
August .. ..	Ipswich Grammar .. .. .. ..	17	15	15
December .. ..	Brisbane State High .. .. .. ..	40	22	22
	Totals .. .. .. ..	465	363	335
	Country Centres—			
	Mount Morgan Intermediate, Grade 8 .. ..	19	19	17
	Mount Morgan Intermediate, Grade 7 .. ..	29	29	20
	Mount Morgan Convent .. .. ..	11	11	9
	Winton Convent .. .. ..	10	10	10
	Winton State School .. .. ..	8	8	8
	Richmond State School .. .. ..	3	3	3
	Julia Creek State School .. .. ..	1	1	1
	Hughenden State School .. .. ..	8	8	8
	Hughenden Convent .. .. ..	8	8	8
	Totals .. .. .. ..	97	97	84

#### CO-OPERATION WITH OTHER SERVICES.

Two series of eight lectures for the "Child Care Badge" of the Girl Guides Association were given at Herschell Street during the year. Twenty of the twenty-two Guides received their badges.

Miss Waugh, Sister in Charge at Mount Morgan, has given lectures to the members of the Ambulance Brigade in Home Nursing.

Miss Foley, Sister in Charge at Herschell Street, gave a series of five lectures on Mothercraft to the Housekeepers' and V.A.D. section of the Red Cross.

Two lectures were given to the students of the Kindergarten Training College, one on "Skin," and the other on "Infections," and a demonstration on the normal development of the young child was also given.

Kindergarten students visit the St. Paul's Terrace Home and the Administrative Centre, and observe the activities of the various sections of the service. Trained nurse trainees from St. Paul's Terrace, untrained girls from Clayfield Home, visit the Lady Gowrie Centre, and the untrained girls are given lectures on the pre-school child, play materials, &c.

#### MEDICAL STUDENTS.

Lectures and demonstrations were given to fourth, fifth, and sixth year medical students, as in the previous year.

Fourth year medical students were given lectures on "Development of the Normal Child," "Aims and Activities of the Maternal and Child Welfare Service," and one on "Maternal and Infant Mortality."

Fifth year students were given lectures on the care, feeding, and management of infants during early life, as well as demonstrations on the normal baby-foods used in infant feeding. These demonstrations were given at the St. Paul's Terrace Home, and the students were shown the babies in residence, and a brief history of each babe was given.

Final year students attended the Fortitude Valley, Woolloongabba, and Herschell Street Centres, each student attending once weekly for

five consecutive weeks. They also accompanied the Social Service Sisters on their visits to mothers unable to attend the various centres.

A seminar was held at the end of each term as previously.

#### NEWSPAPER ARTICLES.

Articles dealing with Infant and Pre-School Child Management were forwarded each month to 61 newspapers in the State. Among the articles written were—"The Importance of Mothercraft Training," "Behaviour Problems," "Safety First in the Holidays," "Prevention of Accidents," "Behaviour Problems following Arrival of a New Baby," "Abdominal Pain in Childhood," "The Importance of Feeding Your Baby Correctly," "Tonics in Winter," and "The Dummy Habit."

#### PUBLICATIONS OF THE SERVICE.

The work of revising the booklet "The Expectant Mother" is practically complete and the revised manuscript will shortly be forwarded for printing.

"Care of Mother and Child," "Problems of Prematurity," and "Ante-Natal and Post-Natal Exercises" are in constant demand.

#### BABY CLINIC SOCIAL CLUB.

In June the members of the Social Club said "Good-bye" to Miss A. Small, who has retired from the service. Miss Small had been on the staff for 27 years, and had served in many parts of the State. Miss Small was presented with a wallet of notes.

The sum of £13 3s. 7d. has been forwarded to the Queensland Branch of the Serve the Children Fund.

#### VISITORS FROM OVERSEAS.

On Saturday, 28th August, 1953, Dr. Ronald McKeith, Guy's Hospital, London, gave a lecture to the trained staff on "The Child as an Individual." This lecture was well attended despite very inclement weather, and was most informative.

TABLE LXXXII.

Metropolitan—continued.

## VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS.

Year.	Visits to Newborns.	Subsequent and Other Visits.	Total Visits.
1951-1952 .. ..	25,801	1,593	27,394
1952-1953 .. ..	25,298	939	26,237
1953-1954 .. ..	25,284	913	26,197

TABLE LXXXIII.

ATTENDANCES AT CENTRES.  
Number of New Cases seen at the Centres.

	1951-52.	1952-53.	1953-54.
Infants—			
Under one year ..	18,076	18,180	17,736
One to two years..	4,935	5,310	4,750
Over two years ..	2,244	2,201	1,851
Total ..	25,255	25,691	24,337
Expectant mothers ..	732	827	783
Total new cases	25,987	26,518	25,120

TABLE LXXXIV.

## ATTENDANCES OF INFANTS AND CHILDREN AT MATERNAL AND CHILD WELFARE CENTRES AND SUB-CENTRES.

Metropolitan.

—	1951-52.	1952-53.	1953-54.
Fortitude Valley ..	16,925	17,611	16,448
Branches—			
Caboolture (to 5-1-52) ..	416	..	..
Clayfield ..	1,139	1,484	1,086
Dayboro (to 5-1-52) ..	184	..	..
Enoggera (to 30-11-51) ..	929	..	..
Hamilton ..	1,026	1,425	1,095
Hendra ..	1,566	1,380	1,264
Mitchelton (to 30-11-51) ..	499	..	..
Newmarket-Grange ..	976	802	1,042
Wacol Immigration Centre (opened 7-1-53) ..	..	453	1,112
Windsor ..	1,912	1,812	2,676
	25,572	24,967	24,723
Herschell Street ..	12,356	11,225	11,606
Branches—			
Ashgrove (to 30-11-51) ..	1,436	..	..
Bardon (to 30-11-51) ..	616	..	..
Corinda ..	2,053	2,036	2,051
Darra ..	718	683	933
Enoggera (from 1-12-51) ..	911	1,523	1,685
Graceville ..	2,426	2,105	2,182
Immigration Centre			
Enoggera (opened 7-1-53, closed 23-10-53) ..	..	398	178
Indooroopilly ..	1,252	1,213	1,042
Kelvin Grove (to 30-11-51) ..	474	..	..
Mitchelton (from 1-12-51) ..	701	1,509	1,903
Paddington (to 30-11-51) ..	770	..	..
Rosalie (to 30-11-51) ..	669	..	..
St. Lucia ..	548	497	629
Toowong ..	1,536	1,648	1,376
	26,466	22,837	23,585

—	1951-52.	1952-53.	1953-54.
Nundah .. ..	5,808	5,277	5,374
Branches—			
Chermside (opened 10-6-54) ..	..	..	56
Cribb Island (to 5-1-52) ..	113	..	..
Geebung .. ..	653	746	859
Kedron .. ..	3,544	3,462	3,099
Northgate (opened 10-4-53) ..	..	138	301
Redcliffe (to 5-1-52) ..	1,006	..	..
Sandgate (to 5-1-52) ..	1,703	..	..
Wavell Heights (opened 4-12-52) ..	..	174	390
Zillmere .. ..	667	1,026	1,449
	13,494	10,823	11,528
Paddington (from 1-12-51) ..	1,861	4,381	4,382
Branches—			
Ashgrove (from 1-12-51) ..	2,261	3,951	4,138
Bardon (from 1-12-51) ..	604	987	994
Kelvin Grove (from 1-12-51) ..	501	1,301	990
Rosalie (from 1-12-51) ..	966	1,364	1,107
	6,193	11,984	11,611
Sandgate (from 7-1-52) ..	1,896	4,159	4,166
Branches—			
Caboolture (from 7-1-52) ..	504	1,173	1,246
Cribb Island (from 7-1-52) ..	168	389	268
Dayboro (from 7-1-52) ..	125	293	308
Redcliffe (from 7-1-52) ..	988	2,415	2,339
	3,681	8,429	8,327
South Brisbane Sub-centres—			
Archerfield (opened 5-11-51) ..	194	396	466
Bulimba .. ..	2,181	2,168	2,282
Camp Hill .. ..	1,850	2,191	2,122
Holland Park .. ..	2,435	2,538	2,060
Morningside .. ..	2,018	2,420	2,429
Stones Corner .. ..	969	1,030	821
	9,647	10,743	10,180
West End .. ..	7,709	7,752	6,499
Branch—			
Beenleigh .. ..	546	634	734
	8,255	8,386	7,233
Woolloongabba .. ..	18,533	20,507	19,468
Branches—			
Coopers' Plains (opened 3-11-52) ..	..	346	680
Ekibin .. ..	1,006	1,066	1,305
Holland Park T.H.E. .. ..	729	694	430
Ipswich Road .. ..	1,753	1,398	1,564
Rocklea T.H.E. .. ..	961	979	778
Salisbury .. ..	729	855	929
Yeronga .. ..	1,487	1,711	1,539
	25,198	27,556	26,693

*Metropolitan—continued.*

—	1951–52.	1952–53.	1953–54.
Wynnum ..	9,502	8,174	7,339
Branches—			
Cleveland ..	728	614	759
Manly (opened 9–11–51) ..	547	1,230	710
	10,777	10,018	8,808

*Country.*

—	1951–52.	1952–53.	1953–54.
Atherton ..	2,089	2,201	2,087
Branches—			
Herberton ..	415	303	337
Malanda ..	687	641	721
Millaa Millaa ..	768	665	537
Ravenshoe ..	725	691	646
Yungaburra ..	159	160	197
	4,843	4,661	4,525

*Ayr (from 18–5–54)*

Branches—	..	..	407
Clare (opened 31–5–54) ..	..	..	16
Giru (from 18–5–54) ..	..	..	76
Home Hill (from 18–5–54) ..	..	..	214
	..	..	713

Barcaldine ..	1,381	1,206	849
Branches—			
Alpha ..	196	254	188
Aramac ..	197	196	188
Jericho ..	170	105	126
	1,944	1,761	1,351

Biloela ..	3,426	3,865	4,602
Branches—			
Baralaba ..	379	423	577
Goovigen ..	224	249	331
Jambin ..	163	188	154
Moura ..	177	162	308
Thangool ..	400	350	423
Theodore ..	523	376	451
Wowan ..	497	547	699
	5,789	6,160	7,545

Bowen ..	1,996	2,138	2,057
Branches—			
Collinsville ..	833	1,180	1,348
Murroona ..	324	436	439
Proserpine ..	1,196	1,120	1,233
	4,349	4,874	5,077

Bundaberg ..	8,019	7,047	7,171
Branches—			
Gin Gin ..	590	411	423
Miriam Vale ..	245	227	262
	8,854	7,685	7,856

*Country—continued.*

—	1951–52.	1952–53.	1953–54.
Cairns ..	..	9,732	8,849
Branches—			
Cooktown ..	..	240	340
Earlville ..	..	554	501
Edge Hill ..	..	1,050	1,351
Edmonton ..	..	441	538
Gordonvale ..	..	899	937
Kuranda ..	..	177	168
Mossman ..	..	828	923
	13,921	13,607	11,394
Charleville ..	..	3,581	4,512
Branches—			
Cunnamulla ..	..	657	1,077
Morven (opened 3–4–52) ..	..	8	140
Quilpie ..	..	184	327
	4,430	6,056	5,831
Charters Towers ..	..	3,110	3,557
Dalby ..	..	2,846	2,803
Branches—			
Chinchilla ..	..	1,410	1,715
Miles ..	..	674	659
	4,930	5,177	4,859
Emerald ..	..	1,157	774
Branches—			
Blair Athol ..	..	264	149
Capella ..	..	137	88
Clermont ..	..	327	116
Springsure ..	..	349	181
	2,234	1,308	1,717
Gayndah ..	..	1,200	1,265
Branches—			
Eidsvold ..	..	220	188
Monto ..	..	1,309	1,228
Mulgeldie ..	..	164	182
Mundubbera ..	..	918	1,026
	3,811	3,889	3,938
Gladstone ..	..	4,881	5,043
Branches—			
Calliope ..	..	165	250
Mount Larcom ..	..	945	853
	5,991	6,146	5,611
Goondiwindi ..	..	1,458	681
Branches—			
Dirranbandi ..	..	300	233
Inglewood ..	..	693	390
Texas ..	..	449	291
Yelarbon ..	..	284	163
	3,184	1,758	2,546
Gympie ..	..	6,255	6,445
Branches—			
Cooran ..	..	349	353
Imbil ..	..	330	559
Kandanga ..	..	219	188
Pomona ..	..	451	459
	7,604	8,004	5,931

## Country—continued.

## Country—continued.

—	1951-52.	1952-53.	1953-54.	—	1951-52.	1952-53.	1953-54.
Ingham .. .	2,618	2,180	2,442	Maryborough .. .	7,621	8,067	6,844
Branches—				Branches—			
Cardwell .. .	263	76	220	Biggenden .. .	613	691	824
Halifax .. .	711	257	791	Chudlers .. .	572	543	553
	3,592	2,513	3,453	Howard .. .	616	574	584
				Pialba .. .	696	753	647
					10,118	10,628	9,452
Innisfail .. .	4,169	5,260	5,031				
Branches—				Mount Isa .. .	3,987	3,412	3,072
Babinda .. .	991	1,107	881	Branches—			
El Arish .. .	185	139	101	Camooweal .. .	114	94	99
Mourilyan .. .	120	128	96	Cloncurry .. .	489	837	761
Silkwood .. .	142	183	138		4,590	4,343	3,932
South Johnstone .. .	192	291	249				
Tully .. .	1,327	1,499	1,199				
	7,126	8,607	7,695				
Ipswich .. .	12,200	11,303	11,789	Mount Morgan .. .	2,727	2,871	2,721
Branches—				Branches—			
Boonah .. .	1,185	1,239	1,127	Baree .. .	422	302	207
Esk .. .	503	432	403	Red Hill .. .	61	48	61
Laidley .. .	688	488	631		3,210	3,221	2,989
Lowood .. .	161	162	100				
Rosewood .. .	1,275	1,042	970	Murgon .. .	1,801	1,748	1,299
Somerset Dam .. .	151	126	79	Branches—			
Toogoolawah .. .	613	773	461	Goomeri .. .	914	1,052	524
	16,776	15,565	15,560	Hivesville .. .	45	81	81
Kingaroy .. .	2,874	2,407	2,397	Kilkivan .. .	260	227	143
Branches—				Proston .. .	238	233	79
Kumbia .. .	280	300	295	Wondai .. .	1,348	1,061	876
Nanango .. .	476	378	524		4,606	4,402	3,002
Yarraman .. .	180	215	129				
	3,810	3,300	3,345	Nambour .. .	3,550	3,555	3,189
Longreach (closed 3-6-54) .. .	1,397	651	725	Branches—			
Branches—				Buderim .. .	78	172	104
Blackall .. .	1,331	693	680	Caloundra .. .	406	350	277
Muttaburra (opened 3-8-51) .. .	80	26	16	Cooroy .. .	826	1,138	879
	2,808	1,370	1,421	Eumundi .. .	252	274	201
Mackay .. .	7,407	7,172	7,054	Landsborough .. .	184	266	164
Branches—				Maroochydore .. .	480	614	373
Calen .. .	128	201	180	Palmwoods .. .	342	321	166
Finch Hatton .. .	399	497	333	Yandina .. .	209	329	146
Koumala .. .	170	200	310		6,327	7,019	5,499
Marian .. .	291	312	335				
North Mackay .. .	1,891	2,128	1,895				
Sarina .. .	1,550	1,402	1,808				
West Mackay (opened 8-6-54)	..	..	56				
	11,836	11,912	11,971				
Mareeba .. .	2,251	3,132	2,994	Railway Car—			
Branches—				Winton .. .	579	684	683
Dimbulah (closed 3-8-53) .. .	550	255	19	Hughenden .. .	1,173	1,545	1,370
Mount Mulligan .. .	245	223	151	Julia Creek .. .	558	746	686
	3,046	3,610	3,164	Maxwelton .. .	164	135	159
				Richmond .. .	261	507	558
					2,735	3,617	3,456
				Rockhampton .. .	14,211	11,689	11,737
				Branches—			
				North Rockhampton .. .	1,551	1,540	1,569
				Ogmore .. .	280	189	181
				St. Lawrence .. .	332	272	122
				Yeppoon .. .	1,067	856	687
					17,441	14,546	14,296

Country—continued.

Country--continued.

—	1951-52.	1952-53.	1953-54.	—	1951-52.	1952-53.	1953-54.
Roma ..	1,350	2,260	2,476	Townsville ..	14,122	13,510	12,908
Branches—				Branches—			
Dulacca ..	49	125	139	Ayr (to 18-5-54) ..	4,340	4,149	3,258
Jackson ..	93	85	175	Giru (to 18-5-54)	653	593	499
Mitchell ..	768	910	1,233	Home Hill (to			
Surat ..	211	236	341	18-5-54) ..	2,693	2,023	1,596
Wallumbilla ..	97	134	152		21,808	20,275	18,261
Yuleba ..	214	160	225				
	2,782	3,910	4,741				
Southport ..	2,539	3,001	3,330	Warwick ..	3,670	4,368	5,094
Branches—				Branches—			
Beaudesert ..	1,496	1,365	1,286	Allora ..	396	638	666
Burleigh Heads ..	771	742	691	Killarney ..	397	468	390
Coolangatta ..	2,548	2,598	2,739	Stanthorpe ..	1,681	1,620	2,586
	7,354	7,706	8,046		6,144	7,094	8,736
Toowoomba ..	9,640	9,261	8,586	Social Welfare Services ..	4,191	4,133	3,865
Branches—							
Clifton ..	443	298	206				
Crow's Nest ..	589	587	682				
Forrest Hill ..	157	98	34				
Gatton ..	1,201	1,216	968				
Harristown ..	685	603	641				
Oakey ..	633	641	645				
Pittsworth ..	1,065	860	1,136				
	14,413	13,564	12,898				
					367,748	372,326	362,008

TOTAL ATTENDANCES OF INFANTS AND CHILDREN  
AND EXPECTANT MOTHERS.

TABLE LXXXV.  
ANTE-NATAL CLINICS.

Centre.	1951-52.		1952-53.		1953-54.	
	New Cases.	Attend-ances.	New Cases.	Attend-ances.	New Cases.	Attend-ances.
Fortitude Valley ..	67	519	74	540	74	718
Woolloongabba ..	111	778	132	1,076	133	1,193
Caboolture ..	28	188	38	260	21	236
Herschell Street ..	13	19	17	22	5	8
West End ..	12	24	13	18	6	12
Totals ..	231	1,528	274	1,916	239	2,167

## DIVISION OF SCHOOL HEALTH SERVICES.

Chief Medical Officer: P. R. PATRICK, M.B., B.S. (Q'ld.)

Chief Inspector, School Dental Services: E. W. HAENKE, L.D.Q.

*Staff.*—Numerically the medical and nursing staff remained approximately the same during the year. Six nurses were appointed to fill vacancies, and at the end of the year there were sufficient nurses to staff all school health districts. New appointees undergo a two months' preliminary training in Brisbane before allocation to a district. They work with a senior sister, visit special educational centres, and finally perform medical inspections at schools under the supervision of the Chief Medical Officer. In many country centres school nurses work unsupervised, and from time to time special problems arise about which they need further advice. At present these problems are solved only after much correspondence with headquarters. The appointment of additional school medical officers in the proportion of one medical officer to three or four country sisters would improve the service. It would allow children with special problems to be seen at their school, and would also permit complete medical examination where at present only screening examinations are performed by school nurses.

The school dental section was again handicapped in its work by shortage of staff. There have been two vacancies for the whole of the year, and three of the existing staff left the service at the end of June, 1954. One fellowship holder was allotted to School Dental Services, but advertisement for additional staff produced no suitable applicant.

At the end of the year the field staff consisted of:—

- Chief Medical Officer.
- Two full-time Medical Officers.
- One part-time Medical Officer.
- Chief Dental Inspector.
- Sixteen full-time Dental Officers.
- One part-time Dental Officer.
- Senior Sister.
- Twenty-one School Sisters.

### ROUTINE MEDICAL INSPECTIONS.

The following procedure is adopted in carrying out routine medical inspections of school children in Queensland. In Brisbane, Ipswich and North Queensland where school medical officers are stationed, their services are utilised in examining children commencing school and those children from the upper grades who have been referred by the school nurse, teacher or parent. In other centres the school nurse performs medical examinations within the limits of her training. In all areas when children are found to be suffering from defects about which further medical opinion is considered advisable parents are notified in writing and urged to consult their own practitioner. The private practitioner is requested to give his diagnosis of the case and treatment on the notification form which is returned to the head

teacher. Checks are made by the teacher, first after one month and then after two months regarding the action taken to secure further medical opinion. The follow-up by the teacher and the school nurse is instrumental in achieving the important phase of the procedure of securing attention for defects found.

During the year medical officers and school sisters examined 76,801 children. Of these 24,871 were in Brisbane schools and 51,930 in the country. Of the Brisbane children 5,707 were examined by the school medical officer. These included new admissions to school and special referrals from upper grades. The number of schools visited in conducting routine medical examinations were 766, including 69 Brisbane schools and 697 country schools.

Of the children examined 3,319 were considered to have medical defects worthy of further opinion. This constitutes approximately 4·0 per cent. of all children examined. From returns received during the year from head teachers it was noted that at least 72 per cent. of parents acted on advice from school health officers. It is certain that the actual percentage would be higher as in some cases children leave school or transfer out of the district making follow-up difficult. In country areas children may have to wait a considerable time before obtaining appointments due to lack of professional services. These appointments in some cases take place after the head teacher has forwarded his final reports on the medical inspection. This applies particularly in the case of children with defective vision in those country areas where refractions are performed by visiting optometrists only at intervals.

### COMMUNICABLE DISEASES IN SCHOOLS.

The year was not marked by any serious outbreak of communicable disease in school children. The only notifiable disease in which the number of cases was at all large was Scarlet Fever. During the winter of 1954 Morbilli which occurs in Brisbane every two or three years in epidemic form was again prevalent.

*Diphtheria.*—The number of diphtheria cases reported amongst school children was less than last year. The actual numbers were 11 in Brisbane schools and 41 in country schools as against 23 and 68 respectively in the previous year. It is believed that the decrease is due to the increased attention being paid to the giving of booster immunisation doses. At present the exact percentage of children who have received both initial and booster diphtheria immunisation doses is unknown. This valuable information will be collected during the next year. The percentage of children who have had initial immunisation courses for diphtheria was 93 per cent. in Brisbane schools and 92 per cent. in country schools.

*Scarlet Fever.*—The number of cases of scarlet fever notified in school children was 193 in Brisbane and 60 in the country. The actual number of cases occurring would, it is felt, be much higher at least in Brisbane. While the class contacts of cases were being examined, cases were found in which the rash was very transient and the child not sick enough for the parent to call medical attention and thus escape notification. For the most part the cases were of a sporadic nature but in two schools the disease occurred in epidemic form. This occurred in the spring months of 1953, and during June, 1954. On the whole the cases were mild and responded rapidly to treatment.

*Poliomyelitis.*—The number of cases of poliomyelitis reported from school children was the least for four years. Only 12 cases were notified from Brisbane schools and 21 from the country. This total of 33 was much less than the totals of 95, 151, and 356, which have occurred in school children during the previous three years. As previously the cases occurred mainly as single cases from a school.

*Other Communicable Diseases.*—Of the remaining notifiable diseases which occurred in school children, it is noted that 11 cases of tetanus were reported, seven from the Brisbane area. While immunisation against tetanus is increasing it has not as yet decreased the number of cases reported.

Rheumatic fever was made a notifiable disease during the year and 13 cases occurred in school children.

Of 17 cases of tuberculosis reported, 10 came from the Thursday Island and Torres Strait areas.

*Immunisation.*—The staff of School Health Services assisted local authorities in Brisbane and Ipswich in their immunisation campaigns. School sisters helped the Brisbane City Council give initial diphtheria immunisation to 553 children, diphtheria booster doses to 7,871 and tetanus immunisation to 2,593 at Brisbane schools.

At Gatton Agricultural College, School Health Services staff immunised 251 students against tetanus. This included initial immunisation courses and booster doses.

#### MANTOUX TESTING OF SCHOOL CHILDREN.

From the beginning of the 1954 school year, the Director of Tuberculosis arranged Mantoux testing of Primary school leavers in Brisbane. All children who intend to leave Primary school during the current year are included in the testing. Negative reactors are given B.C.G. vaccination if the parents wish. Positive reactors report to the Chest Clinic for X-ray. During the first half of 1954 the number of children tested was 2,732. Of these, 575 children gave positive reactions. No active case of tuberculosis has been definitely diagnosed but two recent migrants from Scotland with suspicious X-rays are being investigated further. It is pleasing to note that very few parents refuse the opportunity of having their children receive B.C.G. vaccination. The percentage of positive reactors remained at approximately 20 at the 91 schools visited, except one. Here the percentage was 46, and when all the schools in that particular district have been visited, the higher incidence will be investigated.

#### SERVICE TO REMOTE AREAS.

The policy of giving priority to country children was continued throughout the year. Of the 22 school sisters on the staff, only five worked in Brisbane schools. Except for treatment to children at Homes under the supervision of the State Children Department, no school dentist worked in the capital city. In country areas where Hospital Board Dental Clinics are situated it had been official policy for school dentists to inspect children at schools close to the clinics to which centre they were referred for treatment. From the beginning of 1954, inspection by school dentists at such schools ceased and the responsibility for dental treatment for their children is left to the parents who may avail themselves of facilities at the Hospital Board Clinics. This gave the remote areas a still further opportunity for a service by the school dentist. During the year dentists visited 150 schools and examined 3,865 children at schools away from public transport, hiring private transport, the cost of which was borne by the Department. School sisters hired transport to examine 7,502 children at 293 similar schools. In addition, dentists and school sisters use official vehicles to visit schools "off the-line." The children treated by school dentists included 58 children receiving correspondence lessons.

#### SPECIAL EDUCATION.

During the year School Health Services co-operated with the Department of Public Instruction in investigating children who were suffering with defects which could hinder their education. The main groups of children investigated were the educationally subnormal, children with hearing defects and those with visual defects. The procedure followed is one of mutual referral between School Health Services and the Research and Guidance Branch of the Education Department. Children found during the routine medical inspection to need special investigation are referred to the Research and Guidance Branch. Likewise officers from that Branch refer children to School Health Services and a special medical examination, including an interview with the parents, is conducted.

#### *The Educationally Sub-normal Child.*

During the year medical inspections were conducted at the Opportunity Schools at Dutton Park, Valley and Ipswich and similar classes at Sandgate and Petrie Terrace. As a result of routine medical examinations 95 children were referred to the Research and Guidance Branch as likely cases for special education at Opportunity Schools. The majority of these children came from Brisbane schools. It is to be hoped that such facilities will be extended to all country children. At present children in the country who need this special examination have to journey to Brisbane.

At School Health Services main office, 83 children were closely checked to find a cause for educational backwardness. Of these, 44 were referred from the Research and Guidance Branch. The remainder came from the Remedial Education Centre at the Queensland University. This latter group consisted mainly of children with normal intelligence but who were not making progress at school in keeping

with their ability. Many of them had a specific backwardness, such as a reading difficulty or failure in mathematics.

*The Deaf Child.*—The expected decrease of children attending the Deaf School during 1954 mentioned in the last annual report eventuated. This decrease was due to the deaf children resulting from the rubella epidemic in 1938 reaching leaving age. The figures dropped from 219 to 168. It is interesting to note that at the present time there are very few new cases of rubella deafness. The last rubella epidemic of any magnitude in this State was in 1941 and produced many deaf children. When these children leave the Deaf School in two or three years time the attendance will drop further.

During routine medical examinations school health officers pay particular attention to hearing defects. At Townsville, Ipswich and the South Coast areas, school sisters used portable pure-tone audiometers supplied by the Commonwealth Acoustic Laboratory. Of 4,477 children examined, 92 were found to have some degree of hearing loss. In other country centres the tests used were voice and watch tick tests. In Brisbane by using both audiometric and voice tests 35 children were referred to the Commonwealth Acoustic Laboratory for further examination.

The number of blind children attending the Blind School continued at a low figure. The present enrolment is 19.

#### HEALTH EDUCATION.

Routine medical examinations take up the bulk of the time of the medical and nursing staff. Such work while it is extremely important is only one aspect of the total school health programme. Another aspect of the programme, probably equally important, is that of health instruction. School health education includes all the learning experiences which can be used to promote health during school hours. It includes direct health instruction during the period set aside for such instruction. It also includes many indirect learning experiences as the inspection by the school doctor, nurse, and dentist, the immunisation procedures at school, school milk distribution, and many others. During the year the class teachers continued their programme of direct health education using "Subject Health" as a guide. During the next few months the Queensland Health Education Council expect to distribute to schools a health primer which comprises stories on health subjects for those children who have just learnt to read for themselves.

The School Health Co-ordination Committee, consisting of representatives from the Queensland Health Education Council, the Department of Public Instruction, the Teachers' Training College, the Physical Education Branch, and the School Health Services held meetings throughout the year. The Committee drew up a health education programme which was followed by the schools during National Health Week 1953, and at present is examining the health instruction programme for teachers both at the Training College and in the field. It is hoped to

recommend to the Department of Public Instruction a student teacher health programme which will fit teachers to make better use of the time allotted to health instruction and better use of the various incidental opportunities for health instruction which occur during school time. For the teacher in the field it is expected that recommendations will be made to include health education as a subject for discussion in the various district seminars.

#### SCHOOL HEALTH AND THE TEACHER.

The teacher plays an important part in the school health programme and the role is not restricted to one aspect only. He is the main figure in health education, he is responsible for notification of defects in the environment of the school, and not only helps to select children for special attention during the medical examination but also helps in the follow-up of children with defects. It is therefore imperative that both the student teacher at the Training College and the teacher in the field should have instruction in school health matters. The School Health Services Branch examined 450 student teachers during the year. The examination which includes Mantoux Testing by the Chest Clinic staff is complete as possible. It is used not only to decide medical fitness but also as an educational experience in health examination.

By the co-operation of the Physical Education Branch, student teachers discussed school health subjects under the supervision of the Chief Medical Officer at camps held at the National Fitness Camp at Tallebudgera.

The whole training of teachers in health education is at present under review by the School Health Co-ordination Committee.

#### STAFF CONFERENCES.

In August, 1953, two staff conferences for the medical and nursing staff were held, one at Brisbane, and one at Townsville. All aspects of the professional side of school health work were discussed and it is felt that all members taking part benefited. Country sisters particularly were grateful for the opportunity to discuss with their colleagues problems which present themselves during their work. Two important improvements resulted from the conference. They are the publication of a Manual of Procedure for school sisters and a decision to revise many of the printed forms used. The Manual of Procedure which has been distributed to all sisters should prove particularly helpful to new sisters and country sisters. It contains information on most aspects of the work. The most important revision in the printed form is the form which parents complete prior to the child's medical examination. It is felt that the revised form will help to collect a much more valuable medical history than the old form. Amongst other facts it should make possible a better knowledge of the child's immunisation status as it contains questions regarding tetanus and diphtheria booster immunisation doses which were absent from the old form.

It is believed that similar staff conferences should be held in the future as much benefit is derived not only by the individual staff member but also the service as a whole.

#### HOOKWORM CAMPAIGN.

In North Queensland two school sisters stationed respectively at Cairns and Innisfail assist in the Hookworm campaign. In addition to routine school work sisters collect and examine specimens both from school children and other members of the community. During the year the number of school children investigated for the disease was 2,337. Of these only 14 children showed positive specimens.

#### TRACHOMA SURVEY.

Since its inception some 40 years ago Queensland School Health Services has been particularly interested in the diseases which affect the eyes of children in Western Queensland. When Dr. Rogers, the first ophthalmologist, was appointed in 1912 he found that 20 per cent. of the children in that part of the State suffered from trachoma, many of them severely. The campaign against trachoma included health education in the schools, the appointment of the local medical practitioners as part-time ophthalmic officers, and the opening of the Wilson Ophthalmic School Hostel to treat severe cases. Gradually the disease has lessened both in incidence and severity. In 1952 the Wilson Ophthalmic Hostel was closed as a trachoma centre due to lack of patients. However, the disease still existed and in order to ascertain the present position, Dr. E. O. Marks, Ophthalmologist, made another survey of Western Queensland schools. From his report the following facts emerge:—

Trachoma still exists in a mild form. Out of 143 cases diagnosed as trachoma, only two children needed any special attention. The remainder needed treatment which could be given by the local practitioner. Central Western Queensland is relatively free of the disease. There has been little change in the incidence in North-Western Queensland and South-Western Queensland. The former has the highest incidence.

The majority of cases occur in coloured children. Dr. Marks believes this to be due not to a racial susceptibility but to the poor hygiene observed in the home environment.

In an endeavour to still further reduce the incidence, action is being taken to advise the Local Authorities concerned that one factor in the disease is the poor hygiene of the homes; the Queensland Health Education Council is preparing a campaign against the disease and the School Health Co-ordination Committee will consider a renewal of eye health education in the schools.

#### SCHOOL DENTAL SERVICES.

Elsewhere in this report mention has been made of the present shortage of dental staff which prevents a regular dental service to those children who are eligible, as frequently as desired. In only one dental district was the desired standard of an annual visit attained. This was along the Great Northern Railway serviced by Rail Dental Clinic No. 4. As this district is the furthest from Brisbane it is in keeping with departmental policy that it should receive the best service. In other areas the school dentist visits each school in rotation according to the period it has been waiting for a service, approximately once every two and a-half years.

Of 39,424 children inspected at schools, 2,509 children had naturally sound mouths. This means that only 6 per cent. the children examined had not at some time suffered from dental caries which is by far the greatest defect found amongst children.

In Brisbane, school sisters referred 540 children with obvious caries for dental treatment. The actual number with caries would, of course, be much higher.

With a view to having an accurate assessment of the effect that fluoridation of water may have on dental caries, should it be introduced in this State, Dr. B. J. Kruger of the University Dental Department is making arrangements to inspect a number of Brisbane school children. His findings will give the caries-rate at the present time and will be available for comparison in the event of fluoridation at a future date.

#### LXXXVI.

TABLE OF FINDINGS—SCHOOL HEALTH SERVICES  
1953-1954.

Number of visits paid to Schools on Medical Inspection by School Sisters—

Metropolitan .. .. .. .. ..	69
Country .. .. .. .. ..	697

Number of children examined by School Sisters—

Metropolitan .. .. .. .. ..	24,871
Country .. .. .. .. ..	51,930

Number of children whose parents were notified of child's defect—

Metropolitan .. .. .. .. ..	1,060
Country .. .. .. .. ..	2,259

Number of homes visited by School Sisters—

Metropolitan .. .. .. .. ..	7
Country .. .. .. .. ..	277

Number of parents interviewed at schools by School Sisters—

Metropolitan .. .. .. .. ..	5
Country .. .. .. .. ..	135

Apparent physical defects discovered by metropolitan and country School Sisters—

Defect.	Metropolitan.	Country.	Total.
Defective Vision ..	415	744	1,159
Strabismus ..	4	126	130
Other Eye Defects ..	18	40	58
Deafness ..	25	116	141
Ear Discharge ..	13	9	22
Nasal Defects ..	8	381	389
Tonsils ..	307	771	1,078
Swelling in Groin ..	37	72	109
Swelling in Scrotum ..	18	41	59
Spinal Defects ..	32	39	71
Other Defects ..	214	389	603
Teeth ..	540	..	540
Scabies ..	12	52	64
Impetigo ..	107	304	411
Pediculosis ..	332	355	687
Other Skin Defects ..	24	171	195

Number of cleanliness visits made by School Sisters—

Metropolitan .. .. .. .. ..	25
Country .. .. .. .. ..	21

Number of children examined—cleanliness visits by School Sisters—

Metropolitan .. .. .. .. ..	5,820
Country .. .. .. .. ..	1,999

Defects found on special cleanliness visits by Metropolitan and Country School Sisters—

Defect.	Metropolitan.	Country.	Total.
Impetigo .. ..	3	42	45
Pediculosis .. ..	293	73	366
Other Skin Defects .. ..	..	15	15

Number of cases of Diphtheria in School Children—

Metropolitan .. ..	..	..	..	..	11
Country .. ..	..	..	..	..	41

Number of cases of Scarlet Fever in School Children—

Metropolitan .. ..	..	..	..	..	193
Country .. ..	..	..	..	..	60

Number of cases of Poliomyelitis in School Children—

Metropolitan .. ..	..	..	..	..	12
Country .. ..	..	..	..	..	21

Number of cases of Lead Poisoning in School Children—

Metropolitan .. ..	..	..	..	..	2
Country .. ..	..	..	..	..	—

Number of cases of Malaria in School Children—

Metropolitan .. ..	..	..	..	..	1
Country .. ..	..	..	..	..	2

Number of cases of Meningitis in School Children—

Metropolitan .. ..	..	..	..	..	2
Country .. ..	..	..	..	..	4

Number of cases of Tetanus in School Children—

Metropolitan .. ..	..	..	..	..	7
Country .. ..	..	..	..	..	4

Number of cases of Tuberculosis in School Children—

Metropolitan .. ..	..	..	..	..	3
Country .. ..	..	..	..	..	14

Number of cases of Typhoid in School Children—

Metropolitan .. ..	..	..	..	..	2
Country .. ..	..	..	..	..	5

Number of cases of Rheumatic Fever in School Children—

Metropolitan .. ..	..	..	..	..	5
Country .. ..	..	..	..	..	8

## SCHOOL DENTAL INSPECTION.

### INSPECTION.

Table LXXXVII. gives results of examinations carried out by dental officers during the year:—

TABLE LXXXVII.

Number of Children Examined.	Number Notified for Professional Attention.	Number of Children under Regular Dental Care.			Number with Sound Mouths.	Operatively Restored.	Carious Teeth Saveable (Permanent).	Carious Teeth Unsavable (Permanent).	Temporary Carious Teeth.	Permanent Teeth Lost or Extracted.	Six-year Molars Extracted.
		Clinic.	School Dental Officer.	Private Dentist.							
39,424	8,381	2,980	7,145	6,986	2,509	6,428	46,312	4,876	55,291	14,283	10,164

TABLE LXXXIV.—continued.

Permanent Teeth Filled.	Temporary Teeth Filled.	State of Mouth. *			Use of Tooth Brush. †			Percentage of Children with Dirty Mouths.	Total Number of Defective Permanent Teeth.	Average Number of Defective Permanent Teeth per Child.
		A.	B.	C.	A.	B.	C.			
68,324	14,121	10,732	24,563	4,129	11,233	21,177	7,014	9	51,188	1.02

\*State of Mouth—

- A—Good Standard of Mouth Health.
- B—Fair Standard of Mouth Health.
- C—Bad Standard of Mouth Health.

†Use of Tooth Brush—

- A—With a full measure of effectiveness.
- B—With a partial measure of effectiveness.
- C—With no effectiveness.

### CLINICAL PHASE OF SERVICE.

Table LXXXVIII. summarises the particulars of treatment performed during the year. The summary does not include treatment performed throughout the State at the various Hospital Board Clinics, for children who were referred to such Clinics by officers of the School Health Services.

TABLE LXXXVIII.

### TOTAL TREATMENT FOR YEAR.

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
31,043	43,994	87,235	48,113

TABLE LXXXIX.

### TREATMENT FOR CORRESPONDENCE PUPILS.

Number of Children Treated.	Number of Extractions.	Number of Fillings.	Number of Other Treatments.
58	61	124	63

## DIVISION OF MENTAL HYGIENE.

Director of Mental Hygiene: B. F. R. STAFFORD, M.B., B.S.

The past year established two trends in general policy which must promote advances in the care and treatment of the mentally sick. Firstly, came the official and then public acceptance of an enlightened attitude towards so called "escapees." Almost from the beginning of organised civilisation the care of the mentally sick has emphasised custodial care. It is very certain that such care must be an essential element in the treatment of certain forms of mental sickness, but it is equally certain that a custodial regimentation of all patients leads to unpopularity and stigma in respect to admission to mental hospitals, and prejudices the recovery of some patients already admitted.

It is now recognised that an efficient classification of mental patients is of paramount importance, if only to the extent of dividing the hospitals into security wards and non-security wards. Patients who leave security wards without authorisation are escapees, and patients who leave non-security wards, abscond. Very often it is found that an absconding patient has merely anticipated his discharge by a few days.

This principle must be developed further by the expansion of voluntary patient accommodation within the Mental Hospitals.

The second important principle that has been established officially, is the recognition of the need to closely co-ordinate services designed for mental sickness. The implications of this attitude involve re-orientation to nursing training as well as buildings, facilities, and equipment. The Nurses and Masseurs' Registration Board has for many years been responsible for the standards of training for mental nurses. It is confidently hoped that a closer co-ordination of all curricula and teaching schools will greatly benefit all branches of the nursing profession.

Progress in the Mental Hygiene Service is probably the better for being evolutionary rather than revolutionary. It therefore transpires that in reviewing the past year, trends of progress are more often seen than actual milestones of achievement. It also follows that certain problems are in the process of solution and others are awaiting solution.

A review of problems may be considered under four headings—patients, nursing staff, medical staff, and equipment.

**1. Patients.**—As in previous years accommodation is an urgent matter. Patients suffering from senility still account for 30·5 per cent,

of admissions. The establishment of special accommodation for seniles in association with general hospitals will ultimately provide relief for those requiring skilled nursing care. The Dalby Hospitals Board is managing the Jubilee Hospital for female senile patients. The Toowoomba Hospitals Board manages the Mount Lofty Hospital for senile male patients. This policy of caring for the aged in their own residential area, and amongst their own relatives and friends has much to commend it. Approved expansion of Eventide Homes is designed to meet the need of the more competent seniles. However, it would appear necessary to provide a special geriatric hospital apart from general hospitals to serve the Metropolitan region.

There is urgent need for actual facilities to care for and to train the Backward Persons of this State. Some progress has been made in that a farm colony institution is being constructed adjacent to the farm lands of the Brisbane Mental Hospital. There still remains the need for greater accommodation for the very young children at Ipswich and more segregate accommodation for those at Toowoomba. In addition to the Backward Persons in mental hospitals, there is a large number in the community needing the advantages that special training and vocational centres could provide.

The overcrowding generally has been attacked. The new mental hospital at Charters Towers is still proceeding towards the first projected accommodation of 500 beds. The admission unit is expected to be opened early in July, 1954.

Unless other large projects are commenced the increasing population will give an added admission rate which will in turn maintain a serious accommodation lag.

**2. Nursing Staff.**—The situation in respect to female nursing staff still gives concern. It is true, that at the Brisbane and Ipswich Mental Hospitals, a numerical strength has been reached practically equivalent with establishment.

At the Toowoomba Mental Hospital the numerical strength of female staff remains seriously below establishment. At all hospitals a disquieting development is the increase of untrained and inexperienced staff in relation to trained and senior staff. It would appear that vital statistics have been affected by factors outside departmental control such as birth rate, marriage rate, and industrial development. The situation has been met by the employment of married women,

but unless these officers are permitted to train and qualify as mental nurses, the staff position must continue to be unstable.

3. *Medical Staff.*—The medical fellowship scheme adopted by the Government has provided three excellent young practitioners and continued recruitment of officers from fellowship holders augurs well for the future of the service. Dr. Neville Parker has obtained Part I. D.P.M. Queensland and is now on leave for the purpose of obtaining Part II. and the full Diploma at the Melbourne University.

In order to achieve the policy of recognising mental sickness as a generic term including numerous different sicknesses and conditions, more medical officers will be necessary. Without ample medical staff progressive therapy will inevitably deteriorate into routine treatment.

4. *Equipment.*—This is a phase of mental hospital administration that has shown most progress. In each hospital there is a continual arrival of new equipment to ensure better nursing and medical treatment. Domestic conditions are improved by the installation of modern labour saving devices. Amenities for recreation and social activities are being progressively developed. As examples can be cited, the establishment of a canteen at the Ipswich

Mental Hospital (the other hospitals already having this facility); the establishment of a hairdressing salon at the Toowoomba Mental Hospital (Ipswich Mental Hospital patients are provided with transport to enable them to use the facility already at the Brisbane Mental Hospital); and the provision of new recreational facilities at the Brisbane Mental Hospital consisting of bowling greens for male and female patients, and tennis courts, croquet lawns, and vigoro area for female patients.

An overall survey of patients in Mental Hospitals as at the 30th June, 1954, is shown in appended statistical tables. Important trends shown in these tables are:—

TABLE XC.

	1952-53.	1953-54.	Increase or Decrease.
1. No. of patients admitted	1,138	1,128	- 10
2. No. of patients discharged	642	713	+ 71
3. No. admitted suffering from senility .. ..	306	345	+ 39
4. No. admitted suffering from mental deficiency	86	138	+ 52

The Spiritual needs of the patients of all the Mental Hospitals have been well catered for by visits and by regular services conducted by visiting clergy of the various denominations.

## BRISBANE MENTAL HOSPITAL.

Medical Superintendent:  
C. R. BOYCE, M.B.(Syd.).

The Medical Superintendent reports that during the year a total of 634 patients received electro therapy and 93 insulin coma therapy.

Occupational therapy continues to expand and nine non-qualified teachers are daily occupied with upwards of 100 patients in the arts of wood-work, leather-work, many types of handicrafts, pottery, and book-binding.

Arrangements have been made for a display of occupational therapy articles at the Brisbane Exhibition in August, 1954.

Music therapy has progressed to the extent that several concerts were provided by patients for their fellow patients.

Callisthenics continue to be popular and a beneficial form of treatment.

The female sports ground and cafeteria provide an outlet from the crowded female wards for a large percentage of the female population, different wards providing personnel daily.

Beneficial therapeutic effects are noticeable from the activities of the canteen, and the hairdressing salons.

Motor outings for picnics, seaside trips, visits to churches, &c., are always well attended.

It is regrettable that larger establishments of nursing staff are not provided for more intensive and more extensive psychotherapy throughout the wards.

The standard of living of patients progresses steadily as indicated by improvements in food service, clothing, ward furnishings, amenities, recreations and wider social activities.

A movement has begun to establish a new artisans' block and already the harness and saddle maker and the blacksmith have been installed in more modern and better equipped shops. Moving the plumbers is under way, and it is hoped that the remaining artisan staff will complete the new colony and their erstwhile abodes transformed into a beauty spot for visiting relatives of patients.

The female cafeteria in their new sports ground is completed and in use.

The hospital mortuary has been completely modernised.

A group of three buildings is taking definite shape in a commanding position on the farm area as the nucleus of a backward persons' colony.

A modern cottage has been altered to become a general lecture centre to include tuition in invalid cooking, and installation of electric power is awaited to enable completion of the centre.

Considerable hospital artisan labour has been entailed in building a new dairy and this structure is nearly ready for electric and machinery installation.

The farm irrigation scheme has been completed and is satisfactorily in operation.

A shelter shed has been erected in the yard of Female Ward 12.

Extensive alterations of Female Wards 1 and 2 are in progress and are being effected by the Public Works Department.

Considerable alterations to and enlargement of the hospital kitchen has proceeded throughout the year and the final stages are in sight.

The full-sized bowling green for male patients has reached the grass planting stage, and sporting facilities in the female recreation ground are nearing completion.

Conversion of an old building into a convalescent and final rehabilitation ward for sixteen female patients nears completion and will soon be in use.

Our thanks are extended to the various voluntary organisations who have provided entertainments, social, and festive activities for the patients, and in particular the Country Women's Association, Silver Hut, Presbyterian Girls' Fellowship, Seventh Day Adventists, Mrs. Smibert's Concert Party, Monty Bloom's Concert Party, Mrs. Kelly's Concert Party, Relatives and Friends Association, Goodna Methodist Sunday School, Salvation Army Band, Methodist Prison Welfare, Scripture Gift Mission, Mrs. Horsman, Red Cross Home, Chelmer, and Mrs. Bestman's Party.

Pictures and dances are well patronised by hundreds of patients, and the Annual Patients' Fancy Dress Ball was a huge success, and a credit to the organising committee headed by the Matron and the Chief Male Nurse.

### WACOL REPATRIATION PAVILION.

This division of the Brisbane Mental Hospital continues to render excellent service to ex-servicemen. It is unfortunate that all ex-servicemen cannot reside in the open wards of the Pavilion, and it is hoped that a closed ward may some day be built to cater for those not at present considered suitable for open wards.

During the year 130 cases were admitted, 83 cases were discharged, two died and 44 were transferred elsewhere.

Considerable progress has been made in beautifying the grounds. A considerable area of lawn surface has been top-dressed, and more garden beds are appearing.

The sports oval is slowly but surely developing under enthusiastic voluntary patient labour, and turf-laying has actually begun.

Occupational therapy groups keep busy with woodwork and handicrafts, and several patients take the opportunity of having daily tuition by visiting the hospital's main occupational therapy centre on days other than the twice-weekly classes at the Pavilion.

The Anzac Day ceremony grows annually in magnitude and in solemnity, and the offices of the Ipswich Model Band were much appreciated.

Educational and recreational films in the theatrette of "B" Block are well-patronised. They are conducted by Repatriation officers. The hall has recently had modern ventilation installed.

Motor bus outings, picnics, and visits to sub-branches of the R.S.S.A.I.L.A. are efficiently organised by the Goodna Sub-branch of the Department of Repatriation.

#### TOOWOOMBA MENTAL HOSPITAL.

Medical Superintendent:

J. H. B. HENDERSON, M.B., B.S. (Syd.)

The passing of another year has seen further improvements and some disappointments at this Hospital, though the trend is still progressive.

Predominant among the latter is the failure to procure an occupational therapist, the presence of whom would have put our therapeutic activities on a very satisfactory basis.

Restriction of building improvements, in particular to ward sculleries, is regretted, but active progress is now being made with alterations and improvements to the Nurses' Quarters, and the construction of the X-ray Department.

The portable X-ray has been a great boon and with its installation in the new rooms its utilisation will be greatly enhanced.

Internal and external painting of the wards by our own painters and the Public Works Department is proceeding, whilst other minor improvements to the wards for the benefit of patients and staff are continually being effected.

Cold bitumen paths are gradually being constructed to link up the various wards and their ancillary blocks.

A start has also been made on the installation of steam heated calorifiers throughout the wards to enable a constant supply of hot water to be maintained.

A full diet, recreation, entertainments, dances, canteen facilities, reading matter, and bus trips all tend to make the patients' lives happier and their behaviour more natural, whilst it is hoped that the bus trips can be made a more regular feature for their entertainment.

The staffing position on the female side has not improved as anticipated and there is still a considerable shortage together with a dearth of trainees.

Admission figures have dropped somewhat on last years numbers, but a gratifying feature is that over 56 per cent. of these admissions were of the voluntary type. Of the remainder a large proportion were senile and mental defective cases from whom recovery could not be expected.

The Jubilee Home at Dalby and the Mount Lofty Home at Toowoomba have accepted quite a proportion of our elderly patients, all except one or two of whom have adjusted themselves well to their new environment and earned the approval of the staff at these homes.

Numerous children have been admitted during the year and many of them are attending the school at the Epileptic Home where Miss King is doing a remarkable job in attempting to educate and train them.

The Psychologist is doing very useful work here, at the General Hospital, and the Epileptic Home, whilst the local Stipendary Magistrate and the Education Department have also called on his services.

#### IPSWICH MENTAL HOSPITAL.

Medical Superintendent:

J. A. HEDE, M.B., B.S. (Melb.)

During the past twelve months the number of infant admissions has steadily increased. This has necessitated the provision of additional nursery facilities in the Hospital Ward. In addition, the special nursing required by these children has further aggravated the overall problem created by the steady depletion of trained staff on the Female Division.

Electro-therapy has been instituted and is now available daily. Occupational and recreational activities have commenced in the Male Occupational Therapy Block and Male Ward 2, and it is proposed eventually to extend these therapies to all wards.

The Senior Psychologist, Brisbane Psychiatric Clinic, has visited the Hospital to administer psychological tests and advise on the activities of the patients' school. Additional educational and recreational materials have been supplied, and in the schoolroom more emphasis has been placed on adaptation to institutional environment.

A small laboratory has been provided in the administration block equipped to allow routine pathological investigations. A lecture and demonstration room for nurses has been provided also.

Alterations to the grounds and landscape have been proceeding with the technical assistance of the Acting Superintendent of Institutional Gardens.

Regular entertainment has been provided in the form of dances, band recitals and weekly picture shows. The patients have been entertained also by concert parties under the direction of Mrs. Kelly and Miss Smith.

The children have been visited by Miss Hinton and party, and also Mrs. Maher and members of the Silver Hut Committee. On each occasion gifts have been distributed and a special Christmas tree and party was organised by Miss Hinton.

The Country Women's Association have visited regularly and distributed sweets and presents in addition to their monthly donation of ice cream.

The local Sub-branch of the R.S.S.A.I.L.A. has continued to entertain Returned Servicemen with bus trips and visits to the theatre.

The various visiting clergy have conducted regular religious services and catered for the spiritual needs of the patients.

The "Courier-Mail" Toy Fund provided a generous donation for the purchase of Christmas gifts for juvenile patients.

Picnic outings to Sandgate were arranged for male and female patients, and catering provided by the Eventide Home. Suitable children have been taken on picnic excursions to the playground in the Queens Park, Ipswich.

## CHARTERS TOWERS MENTAL HOSPITAL.

This hospital has reached the stage when final arrangements for the opening were completed and the official ceremony and proclamation of the premises as a Mental Hospital fixed for the 1st July, 1954.

The planning and developmental stages have necessitated several visits to Charters Towers by the Director of Mental Hygiene. This opportunity is taken to acknowledge the co-operation and assistance by all officers and branches of the Public Works Department. Appreciation is also expressed for the interest and help extended by the members and officers of the Charters Towers Hospitals Board.

The Acting Superintendent and staff of the Eventide Home have at all times been willing to assist.

A very extensive programme of ground development and beautification has been completed to the credit of the Assistant Supervisor of Institutional Gardens and the staff of the Hospital itself.

It is proposed to open the hospital with the completion of the admission section. Opportunity has been taken to embody modern ideas of construction throughout the building. Supervision—the fundamental ingredient in the care and treatment of the mentally sick—has been unobtrusively blended with ideas providing beauty, utility and amenities.

The development of a mental hospital approximately 900 miles from the central administration is a situation unique in Australia and will, of course, bring its peculiar problems.

However, it is confidently believed that the regional development of the State will solve all major difficulties and harmonious relationships already established with existing services will ensure a necessary and efficient service for Northern Queensland.

## EPILEPTIC HOME.

Superintendent: E. G. KENYON.

As at June 30th there were 108 patients under treatment at the Home—comprising 48 males and 60 females—14 of whom were under 15 years of age. There were 17 admissions—12 males and five females; six were discharged—four males and two females; two males and two females were discharged to the Toowoomba Mental Hospital; four male patients died.

The Epileptic Home is ideally situated at Willowburn in a rural setting on the outskirts of the city of Toowoomba. The salubrious climate is all that could be desired as is evidenced by the general health of the patients, which was good during the year.

Applications for admission during the year were numerous and the majority accepted belonged to the younger age group.

Dr. Henderson, Medical Superintendent of the Toowoomba Mental Hospital, is Visiting Medical Officer and he reports as follows:—

“As Visiting Medical Officer I feel very satisfied with the advantages which the inmates of the Home enjoy in the way of interests, hobbies, food and clothing etc.,

and, in particular, with the training and education which the majority of the younger ones receive.

“From a therapeutic point of view, one is at a disadvantage since many of the patients admitted are either aments, or have run the gamut of therapy over a period of years beforehand, and are already in some state of mental deterioration. Nevertheless, newer drugs such as mesantoin and mysoline are being tried, and beneficial results are frequently seen in the patients.”

The teacher in charge of the Home School states 19 boys and 14 girls are enrolled, including 11 children from the Toowoomba Mental Hospital.

An important event during the year was the opening of the new school which is situated in the grounds adjacent to the Home. This school replaces the old one, which was in the main building, and acted as the education centre for 14 years.

The school was built mostly of timber from an old home that stood on a property purchased some years previously. Painted internally in soft, light, pastel shades, the school room presents an aesthetic appearance, and being fitted with electric heaters, it becomes a bright happy atmosphere for the little folk during their school period.

Several new pupils for the school created a problem concerning their social rehabilitation and assimilation into the school community. In any case this must be a slow and exacting task. Some pupils are assessed as being ineducable according to normal educational standards, but provided they can be trained to attain reasonable social habits their attendance at the school is encouraged.

It has happened that some children, previously difficult to handle, have found expression for pent-up emotion in water and pastel colouring scenes of their own choice.

General school work according to each child's wavering temperament and changing capabilities continues slowly, but satisfactorily.

At the present time the exterior of the Home is being painted and when completed will present quite a colourful appearance.

Various repairs and improvements have been attended to by the Public Works Department. A Laundryette has been built for female patients and this will be of great advantage to patients who can do their personal laundry. Copper piping is taking the place of galvanised pipes in the hot water system. This installation will overcome the bad corrosion that has taken place in the galvanised piping over the years. The boiler, too, has been repaired, and this, it is hoped, will improve the supply of hot water.

A scheme to heat the wards with steam is under consideration and it is hoped that it will not be long before something definite is done. Patients rising at 6 a.m. on cold winter mornings with the temperature below freezing point will very much appreciate such comforts.

The farm produced adequate supplies for the Home and some excellent crops of tomatoes, beans, cabbage, beetroot, and potatoes were grown.

Many patients were taken out on leave by parents and relatives for various periods and all returned happy and contented. Visits to the City of Toowoomba were made by quite a number of patients, and with a pound or two to spend, they all returned with perhaps a present for a friend, or something that took their eye while shopping.

Recreation and entertainment are always looked for and appreciated by patients. Bus outings to various spots on the Downs were provided during the year. Three buses are hired for these outings and if it were not for this method of outing, many patients would never see beyond the gates of the Home.

Concert parties paid visits during the year and rendered programmes much to the enjoyment and delight of patients. The weekly dances and picture evenings are always popular.

Religious services were held by various denominations on each Sunday during the year and the Salvation Army Band continues to provide a musical programme periodically.

The staff position is adequate at present, but in the not far distant future it might be necessary to provide an extra female nurse in order to cope with the increase in female patients who are more or less confined to bed.

#### PSYCHIATRIC CLINIC.

A large staff turnover has made this an upsetting year for the Clinic. The extra psychiatric sessions which it was hoped could be provided were not feasible owing to interruptions of visits by medical officers from the Brisbane Mental Hospital through examinations, transfers and leave. The Psychology and Speech Therapy sections were each obliged to function under a single officer for several months. Delays in the replacement of staff necessarily restrict the service available to the public and necessitate the imposition of long delays before appointments can be offered. The advertised vacancy for Welfare Officer has not yet been filled. Psychology and Speech Therapy Sections are now fully staffed.

The number of prisoners on remand referred by the Justice Department for psychiatric examination showed a marked increase during the year. The policy of giving a full psychiatric and psychological examination to these prisoners, most of them sexual offenders, is being followed. It is gratifying to note that the Court has taken full consideration of the results of these examinations and the recommendations of the reports in passing sentences upon the offenders. This is regarded as a continuing advance in the contribution of psychiatry to

forensic medicine in this State. There has also been more extensive interaction between the Clinic and the State Children's Department.

Provision of Play Therapy to emotionally disturbed and maladjusted children has continued. Older children and adolescents are now better catered for through art and craft work which comprises the major part of the associated activity in group therapy sessions.

Counselling for selected groups of mothers of maladjusted children is now being conducted. Through this method simultaneous handling of parent and child can be effected with a minimum of delay even when large numbers of new patients are being registered. The group procedure, too, has certain advantages in counselling over the usual individual method.

Visits of psychologists to the Ipswich and Brisbane Mental Hospitals have continued. Some guidance was provided on the drawing up of a curriculum for the special training classes for children at the Ipswich Mental Hospital. The members of these classes, regarded as ineducable under ordinary formal teaching methods, are children some of whom would qualify for admission to an Occupation Centre, the need for which in this State is becoming more and more pressing.

Although there is still a waiting list for Speech Therapy, any case needing urgent attention is taken immediately.

Numerous country children who are unable to obtain speech therapy in their home towns have been given intensive treatments over a period of a few weeks. Results obtained have been rewarding.

The regular half-day weekly service provided by each of our Speech Therapists for treatment of children at the Queensland Spastic Children's Welfare Centre was terminated recently following the appointment of their own speech therapist. The extra time now available to the Clinic will quicken the reduction of the waiting list. Groups of children from the Queensland Bush Children's Health Scheme Home at Redcliffe are still treated at the Clinic regularly each week.

TABLE XCI.

	1952-53.	1953-54.	Increase or Decrease.
1. No. of patients admitted	1,138	1,128	- 10
2. No. of patients discharged	642	713	+ 71
3. No. admitted suffering from senility .. ..	306	345	+ 39
4. No. admitted suffering from mental deficiency	86	136	+ 50

TABLE XCII.

QUEENSLAND MENTAL HOSPITALS.  
SHOWING ADMISSIONS, READMISSIONS, DISCHARGES AND DEATHS, DURING THE YEAR ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.						Toowoomba Mental Hospital.						Ipswich Mental Hospital.						Totals.			
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	
<b>On the Books of the Hospitals on 1st July, 1953</b>				<b>1,288</b>	<b>1,340</b>	<b>2,628</b>				<b>630</b>	<b>630</b>	<b>1,260</b>				<b>561</b>	<b>561</b>	<b>2,276</b>	<b>2,173</b>	<b>4,449</b>		
Admitted for the first time	384	352	736	468	452	920	61	53	114	36	36	148	36	36	36	481	427	908	220	584		
Readmitted..	..	..	..	100	184	468	17	17	34	78	70	148	2	2	2	..	..	..	117	117	1,128	
<b>Totals All Hospitals</b>	<b>..</b>	<b>..</b>	<b>..</b>																<b>2,860</b>	<b>2,717</b>	<b>5,577</b>	
Transferred from Brisbane	..	..	..	..	..	..	24	40	64				7	1	8							
Transferred from Toowoomba	..	..	..	..	..	..	..	1	..				1	..	..							
Transferred from Ipswich..	..	..	..	..	..	..	..	..	..				..	..	..							
<b>*Total number under care during the year</b>	<b>..</b>			<b>1,758</b>	<b>1,795</b>	<b>3,553</b>				<b>733</b>	<b>740</b>	<b>1,473</b>				<b>404</b>	<b>226</b>	<b>630</b>				
Discharged—																						
Recovered	..	..	..	..	..	..	185	237	422				37	31	68				228	268	496	
Section 49	..	..	..	..	..	..	26	60	86				3	3	6				29	66	95	
Relieved	..	..	..	..	..	..	9	7	16				12	37	49				21	46	67	
Not Improved	..	..	..	..	..	..	4	1	5				5	7	12				12	9	21	
Voluntarily left	..	..	..	..	..	..	24	10	34				35	41	76				24	10	34	
Died	..	..	..	..	..	..	126	114	240				..	..	..				184	167	351	
<b>Total Number Discharged and Died</b>	<b>..</b>						<b>374</b>	<b>429</b>	<b>803</b>				<b>92</b>	<b>119</b>	<b>211</b>				<b>498</b>	<b>566</b>	<b>1,064</b>	
Transferred to Brisbane	..	..	..	..	..	..	24	40	64				..	3	4				1	..	1	
Transferred to Toowoomba	..	..	..	..	..	..	..	7	1				1	..	..				1	..	1	
Transferred to Ipswich ..	..	..	..	..	..	..													..	..	2	
Total number discharged, died, &c., during year																			34	18	52	
<b>Remaining on Books of Hospitals on 30th June, 1954</b>	<b>..</b>	<b>..</b>	<b>..</b>																			
Average Number Daily Resident ..	..	..	..																			
Number on leave of absence on 30th June, 1954	..	..	..																			
Proportion of Mentally Sick to each 1,000 of population as at 31st December, 1953 ..	..	..	..																..	..	..	
Proportion of Admission per 10,000 of population for year ended 31st December, 1953 ..	..	..	..																..	..	..	
Proportion of Interhospital transfers																			..	..	..	

\* These totals include interhospital transfers.

TABLE XCIII.

ADMISSIONS, DISCHARGES, AND DEATHS, WITH THE PROPORTIONS OF RECOVERIES AND DEATHS PER CENT. DURING THE YEAR ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Total Admissions .. ..	468	452	920	78	70	148	38	22	60	584	544	1,128
Discharged—												
Recovered .. ..	235	307	542	37	32	69	6	3	9	278	342	620
Relieved .. ..	9	7	16	13	38	51	..	2	2	22	47	69
Not Improved .. ..	4	1	5	7	8	15	3	1	4	14	10	24
Died .. ..	126	114	240	35	41	76	23	12	35	184	167	351
Average Number Daily Resident	1,236	1,202	2,438	617	605	1,222	358	201	559	2,211	2,008	4,219
Percentage of Recoveries on Admissions .. ..	50.21	67.92	58.91	47.43	45.71	46.62	15.79	13.63	15.00	47.60	62.86	54.96
Percentage of Patients Relieved on Admissions .. ..	1.92	1.54	1.74	16.66	54.28	34.45	..	9.09	3.33	3.76	8.64	6.46
Percentage of Deaths on Average Number Resident .. ..	10.19	9.48	9.84	5.67	6.77	6.21	6.42	5.97	6.26	8.32	8.31	8.31

TABLE XCIV.

FORMS OF MENTAL DISORDERS IN PATIENTS ADMITTED DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
1. AFFECTIVE REACTION TYPES—												
(a) Manic Depressive Psychosis .. ..	8	23	31	..	..	..	5	..	5	13	23	36
(b) Acute Mania .. ..	..	1	1	..	..	..	..	..	..	..	1	1
Mania .. ..	2	11	13	5	3	8	..	..	..	7	14	21
Melancholia .. ..	3	3	6	..	..	..	..	..	..	3	3	6
(c) Agitated Depression .. ..	..	1	1	..	..	..	..	..	..	..	1	1
Depression .. ..	23	19	42	9	8	17	..	..	..	32	27	59
Reactive Depression .. ..	..	..	..	2	..	2	..	..	..	2	..	2
Recurrent Depression .. ..	..	2	2	..	..	..	..	..	..	..	2	2
Hypomania .. ..	12	6	18	..	..	..	..	..	..	..	6	18
(d) Involutional Depression .. ..	..	12	12	2	3	5	..	..	..	2	15	17
2. SCHIZOPHRENIC REACTION TYPE—												
(a) Schizoid Personality .. ..	166	160	326	13	14	27	4	..	4	183	174	357
Schizophrenia .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Schizophrenia Depression .. ..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Paraphrenia .. ..	21	39	60	2	2	4	1	..	1	24	41	65
Catatonia .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Paranoia .. ..	..	..	..	..	..	..	..	..	..	..	..	..
(c) Paranoid Reaction .. ..	..	..	..	..	..	..	..	..	..	..	..	..
3. ORGANIC REACTION TYPES—												
(a) Organic Dementia .. ..	3	..	3	..	1	1	..	..	..	3	1	4
Organic Dementia (Huntington's Chorea) .. ..	..	..	1	..	..	..	..	..	..	1	..	1
Organic Psychosis .. ..	6	2	8	..	..	..	..	..	..	6	2	8
(b) Toxins—												
Alcoholic Acute Hallucinosis .. ..	2	..	2	3	..	3	2	..	2	7	..	7
Alcoholic Psychosis .. ..	9	1	10	..	..	..	..	..	..	9	1	10
Alcoholic Psychosis (Korsakov's) .. ..	10	1	11	..	..	..	..	..	..	10	1	11
Confusional Psychosis .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Dementia Paralytica .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Cerebral Syphilis .. ..	..	1	1	..	..	..	..	..	..	..	..	..
(c) Arteriosclerotic Dementia .. ..	11	6	17	..	..	..	..	..	..	11	6	17
Arteriosclerotic Psychosis .. ..	4	3	7	5	3	8	..	..	..	9	6	15
Disseminated Sclerosis .. ..	1	..	1	..	..	..	..	..	..	1	..	1
Presenile Dementia .. ..	1	..	1	..	..	..	..	..	..	1	..	1
Presenile Psychosis .. ..	1	2	3	..	..	..	..	..	..	1	2	3
Senile Dementia .. ..	82	86	168	6	6	12	..	..	..	82	86	168
Senile Psychosis .. ..	15	21	36	..	..	..	..	..	..	21	27	48
4. EPILEPTIC REACTION TYPES—												
Epileptic Psychosis .. ..	..	7	7	2	3	5	..	..	..	2	10	12
Epilepsy .. ..	3	..	3	..	..	..	..	..	..	3	..	3
5. PSYCHONEUROTIC REACTION TYPES—												
Psychoneurosis .. ..	14	..	14	..	..	..	..	..	..	14	..	14
Psychoneurotic Anxiety State .. ..	..	6	6	7	18	25	..	..	..	7	24	31
Hysteria .. ..	..	..	..	..	1	1	..	..	..	..	1	1
6. MENTAL DEFICIENCY—												
(a) Mental Deficiency .. ..	21	24	45	..	..	..	..	..	..	21	24	45
Mental Deficiency — Congenital Syphilis .. ..	..	..	..	..	..	..	..	..	..	..	..	..
Mental Deficiency (Mongol) .. ..	1	2	3	3	2	5	7	7	14	11	11	22
Mental Deficiency (Moron) .. ..	6	1	7	1	1	2	..	..	..	7	2	9
Mental Deficiency (with Epilepsy) .. ..	5	3	8	2	1	3	3	..	..	10	4	14
Mental Deficiency (with Schizophrenia) .. ..	..	1	4	..	..	..	1	..	..	2	3	5
(b) Idiocy .. ..	2	..	2	4	3	7	3	1	7	10	9	19
Idiocy with Epilepsy .. ..	..	..	..	..	..	..	..	1	1	1	1	2
(c) Imbecility .. ..	1	..	1	2	1	3	11	7	18	14	8	22
(d) Moral Deficiency .. ..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Sub-normal .. ..	..	..	..	..	..	..	..	..	..	..	..	..
7. ADDICTION—												
Alcoholism .. ..	25	5	30	10	..	10	..	..	..	35	5	40
Morphine .. ..	2	..	2	..	..	..	..	..	..	2	..	2
Psychopathic Personality .. ..	3	1	4	..	..	..	..	..	..	3	1	4
Totals .. ..	468	452	920	78	70	148	38	22	60	584	544	1,128

TABLE XCV.  
CAUSES OF DEATHS WHICH OCCURRED DURING PERIOD ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
<b>GENERAL DISEASES—</b>												
Carcinoma of Breast ..	..	2	2	..	..	..	..	..	..	..	2	2
Carcinoma of Thyroid Glands ..	1	..	1	..	..	..	..	..	..	1	..	1
Diabetes Mellitus ..	1	..	1	..	1	1	..	..	..	1	1	2
Exhaustion ..	1	..	1	..	..	..	..	..	..	1	..	1
Gangrene of Foot ..	1	..	1	..	..	..	..	..	..	1	..	1
Gangrene of Heel ..	..	1	1	..	..	..	..	..	..	..	1	1
Hanged ..	1	..	1	..	..	..	2	2	4	1	..	1
Marasmus ..	..	..	..	..	..	..	..	..	..	2	2	4
Toxaemia ..	..	1	1	..	..	..	..	..	..	1	1	2
<b>DISEASES OF NERVOUS SYSTEM—</b>												
Cerebral Degeneration ..	2	3	5	2	..	2	..	..	..	4	3	7
Cerebral Haemorrhage ..	5	3	8	1	..	1	..	..	..	6	3	9
Cerebral Thrombosis ..	4	4	8	..	2	2	..	..	2	6	6	12
Congenital Hydrocephalus ..	..	..	..	..	..	..	1	1	2	1	1	2
Dementia Paralytica ..	..	1	1	..	..	..	..	..	..	..	1	1
Huntington's Chorea ..	..	..	..	..	..	..	1	..	1	1	..	1
Senility ..	2	2	4	..	..	..	..	..	..	2	2	4
Status Epilepticus ..	..	..	..	..	..	..	1	..	1	..	..	1
<b>DISEASES OF CIRCULATORY SYSTEM—</b>												
Acute Myocardial Failure ..	2	3	5	..	..	..	..	..	..	2	3	5
Acute Myocarditis ..	..	..	..	2	1	3	..	..	..	2	1	3
Arteriosclerosis ..	4	1	5	..	..	..	..	..	..	4	1	5
Auricular Fibrillation ..	..	1	1	..	..	..	..	..	..	..	1	1
Cardio Vascular Degeneration ..	41	34	75	..	..	..	10	4	14	51	38	89
Congestive Cardiac Failure ..	23	33	56	..	..	..	..	..	..	23	33	56
Coronary Occlusion ..	15	4	19	4	5	9	2	..	2	21	9	30
Left Ventricular Failure ..	5	1	6	..	..	..	..	..	..	5	1	6
Myocardial Degeneration ..	..	..	..	17	20	37	..	..	..	17	20	37
Pernicious Anaemia ..	..	..	..	..	..	..	..	1	1	..	1	1
<b>DISEASES OF RESPIRATORY SYSTEM—</b>												
Broncho Pneumonia ..	3	4	7	4	4	8	2	3	5	9	11	20
Hypostatic Pneumonia ..	1	2	3	..	..	..	..	..	..	1	2	3
Lobar Pneumonia ..	1	..	1	..	1	1	..	1	1	1	2	3
Pneumonia ..	5	..	5	..	..	..	..	..	..	5	..	5
Pulmonary Tuberculosis ..	2	3	5	..	..	..	..	..	..	2	3	5
Terminal Pneumonia ..	4	3	7	..	..	..	..	..	..	4	3	7
Traumatic Asphyxia ..	..	..	..	..	1	1	..	..	..	..	1	1
<b>DISEASES OF ALIMENTARY SYSTEM—</b>												
Acute Pancreatitis ..	..	..	..	..	1	1	..	..	..	..	1	1
Carcinoma of Colon ..	..	..	..	..	1	1	..	..	..	..	1	1
Carcinoma of Pancreas ..	..	..	..	..	..	..	..	..	..	1	..	1
Carcinoma of Stomach ..	..	..	..	..	..	..	2	..	2	2	..	2
Gastro-Enteritis ..	..	1	1	..	..	..	..	..	..	..	1	1
Subphrenic Abscess ..	..	1	1	..	..	..	..	..	..	..	1	1
Haemorrhage into Stomach ..	..	..	2	..	..	2	..	..	..	2	..	2
Intestinal Obstruction ..	..	..	..	1	1	2	..	..	..	1	1	2
Malignant Neoplasma of Liver ..	2	2	..	..	..	..	..	..	..	..	2	2
Secondary Carcinoma of Lungs ..	..	1	1	..	..	..	..	..	..	..	1	1
<b>DISEASES OF GENITO-URINARY SYSTEM—</b>												
Enlarged Prostate ..	1	..	1	..	..	..	..	..	..	1	..	1
Ovarium Cystadenocarcinoma ..	..	1	1	..	..	..	..	..	..	..	1	1
Toxaemia Due to Renal Abscess ..	..	..	..	..	1	1	..	..	..	..	1	1
Uraemia ..	..	..	..	1	1	2	3	..	..	1	3	4
Vaginal Carcinoma ..	..	1	1	..	..	..	..	..	..	..	1	1
<b>Totals</b> .. ..	126	114	240	35	41	76	23	12	35	184	167	351

TABLE XCVI.  
BODILY HEALTH AND CONDITION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
In apparently good health and condition .. ..	258	209	467	54	42	96	33	16	49	345	267	612
In indifferent health and reduced condition .. ..	113	176	289	19	18	37	5	6	11	137	200	337
In bad health and exhausted condition .. ..	97	67	164	5	10	15	..	..	..	102	77	179
Totals .. ..	468	452	920	78	70	148	38	22	60	584	544	1,128

TABLE XCVII.  
BIRTH PLACES OF PATIENTS ADMITTED DURING PERIOD ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Queensland .. ..	248	292	540	48	54	102	26	21	47	322	367	689
New South Wales .. ..	54	46	100	13	7	20	5	1	6	72	54	126
Victoria .. ..	15	8	23	2	..	2	2	..	2	19	8	27
South Australia .. ..	6	3	9	1	..	1	..	..	..	7	3	10
Western Australia .. ..	5	1	6	..	..	..	..	..	..	5	1	6
Tasmania .. ..	5	4	9	..	1	1	..	..	..	5	5	10
New Zealand .. ..	1	5	6	1	..	1	..	..	..	2	5	7
England .. ..	48	41	89	6	3	9	2	..	2	56	44	100
Scotland .. ..	13	12	25	..	1	1	..	..	..	13	13	26
Ireland .. ..	10	14	24	1	1	2	..	..	..	11	15	26
Wales .. ..	4	1	5	..	..	..	..	..	..	4	1	5
India .. ..	2	..	2	1	..	1	..	..	..	3	..	3
South Africa .. ..	1	1	2	..	1	1	..	..	..	1	2	3
Estonia .. ..	2	1	3	..	..	..	..	..	..	2	1	3
Norway .. ..	..	1	1	..	..	..	..	..	..	..	1	1
Latvia .. ..	3	..	3	..	..	..	..	..	..	3	..	3
China .. ..	2	1	3	..	..	..	..	..	..	2	1	3
Denmark .. ..	1	..	1	..	..	..	..	..	..	1	..	1
Finland .. ..	2	..	2	..	..	..	..	..	..	2	..	2
France .. ..	..	1	1	..	..	..	..	..	..	..	1	1
Germany .. ..	5	3	8	..	1	1	..	..	..	5	4	9
Greece .. ..	2	..	2	..	..	..	..	..	..	2	..	2
Italy .. ..	12	4	16	..	..	..	1	..	1	13	4	17
Holland .. ..	..	1	1	..	..	..	..	..	..	..	1	1
Poland .. ..	7	4	11	1	..	1	2	..	2	10	4	14
Roumania .. ..	..	1	1	..	..	..	..	..	..	..	1	1
Russia .. ..	3	1	4	..	..	..	..	..	..	3	1	4
Hungary .. ..	1	..	1	..	..	..	..	..	..	1	..	1
Java .. ..	1	..	1	..	..	..	..	..	..	1	..	1
Czechoslovakia .. ..	2	..	2	..	..	..	..	..	..	2	..	2
United States of America .. ..	1	..	1	..	..	..	..	..	..	1	..	1
Yugoslavia .. ..	1	1	2	..	..	..	..	..	..	1	1	2
Unknown .. ..	11	5	16	4	1	5	..	..	..	15	6	21
Totals .. ..	468	452	920	78	70	148	38	22	60	584	544	1,128

TABLE XC VIII.  
DISTRICTS WHENCE PATIENTS WERE RECEIVED DURING THE YEAR ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Northern and North-Western .. ..	89	43	132	..	1	1	3	2	5	92	46	138
Central .. ..	23	22	45	..	..	..	6	1	7	29	23	52
Southern and South-Western .. ..	356	387	743	78	69	147	29	19	48	463	475	938
Totals .. ..	468	452	920	78	70	148	38	22	60	584	544	1,128

TABLE XCIX.

AGE GROUPS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES, OR DEATHS OCCURRED DURING THE YEAR, AND THOSE WHO REMAINED IN THE HOSPITAL ON 30TH JUNE, 1954.

Age Group.	Admissions.			Discharges.						Deaths.			Remaining.			
				Recovered.			Relieved and not Improved.									
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
BRISBANE MENTAL HOSPITAL.																
Under 5 years .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years ..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
10 years and under 15 years ..	6	1	7	3	..	..	3	3	..	..	..	..	..	..	..	..
15 years and under 20 years ..	13	14	27	5	11	16	..	..	1	1	..	..	..	9	2	11
20 years and under 30 years ..	84	53	137	52	45	97	4	..	4	4	1	..	..	25	16	41
30 years and under 40 years ..	97	93	190	62	72	134	2	..	4	3	3	..	..	164	115	279
40 years and under 50 years ..	59	72	131	50	76	126	..	..	3	3	4	5	8	278	231	509
50 years and under 60 years ..	56	61	117	27	42	69	..	..	1	1	11	12	8	248	270	518
60 years and under 70 years ..	53	53	106	23	40	63	..	..	1	1	22	18	40	255	290	545
70 years and under 80 years ..	62	68	130	9	18	27	4	..	..	4	52	35	87	120	149	381
80 years and under 90 years ..	33	30	63	4	3	7	..	..	..	..	25	33	58	38	69	107
90 years and over .. ..	4	6	10	..	..	..	..	..	..	5	6	11	7	9	16	2
Unknown .. .. ..	1	..	1	..	..	..	..	..	..	..	..	..	..	2	..	2
<b>Totals, Brisbane Mental Hospital ..</b>	<b>468</b>	<b>452</b>	<b>920</b>	<b>235</b>	<b>307</b>	<b>542</b>	<b>13</b>	<b>8</b>	<b>21</b>	<b>126</b>	<b>114</b>	<b>240</b>	<b>1,353</b>	<b>1,325</b>	<b>2,678</b>	

TOOWOOOMBA MENTAL HOSPITAL.																
Under 5 years .. ..	1	2	3	..	..	..	..	..	..	..	..	..	..	1	2	3
5 years and under 10 years ..	3	2	5	..	..	..	1	..	1	..	..	..	..	6	3	9
10 years and under 15 years ..	5	1	6	..	..	..	1	..	1	..	..	..	..	9	5	14
15 years and under 20 years ..	2	6	8	1	3	4	3	2	5	..	..	..	..	9	14	23
20 years and under 30 years ..	9	7	16	5	5	10	..	3	3	..	..	1	1	36	28	64
30 years and under 40 years ..	14	9	23	8	5	13	5	1	6	..	..	1	1	74	55	129
40 years and under 50 years ..	16	15	31	11	6	17	6	5	11	2	4	6	121	111	232	
50 years and under 60 years ..	7	14	21	3	8	11	2	9	11	5	5	10	120	154	274	
60 years and under 70 years ..	13	9	22	9	5	14	1	10	11	10	11	21	146	152	298	
70 years and under 80 years ..	5	3	8	..	..	..	1	12	13	9	10	19	80	62	142	
80 years and under 90 years ..	2	2	4	..	..	..	..	4	4	8	6	14	29	25	54	
90 years and over .. ..	1	..	1	..	..	..	..	..	..	1	3	4	2	1	3	6
Unknown .. .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	6	12
<b>Totals, Toowoomba Mental Hospital ..</b>	<b>78</b>	<b>70</b>	<b>148</b>	<b>37</b>	<b>32</b>	<b>69</b>	<b>20</b>	<b>46</b>	<b>66</b>	<b>35</b>	<b>41</b>	<b>76</b>	<b>639</b>	<b>618</b>	<b>1,257</b>	

IPSWICH MENTAL HOSPITAL.																
Under 5 years .. ..	12	12	24	..	..	..	1	..	1	5	6	11	9	16	25	
5 years and under 10 years ..	10	7	17	..	3	3	1	..	1	1	1	1	1	39	24	63
10 years and under 15 years ..	3	2	5	..	..	..	..	..	..	1	1	2	38	22	60	
15 years and under 20 years ..	..	1	1	..	..	..	..	..	..	1	1	..	1	15	23	38
20 years and under 30 years ..	7	..	7	..	..	..	1	..	1	1	1	..	..	19	14	33
30 years and under 40 years ..	2	..	2	2	..	2	..	..	..	..	..	..	..	18	24	42
40 years and under 50 years ..	2	..	2	1	..	1	..	..	..	..	..	..	..	55	20	75
50 years and under 60 years ..	2	..	2	1	..	1	..	..	..	..	..	..	..	71	23	94
60 years and under 70 years ..	..	..	..	..	..	..	..	..	..	1	1	4	69	25	94	
70 years and under 80 years ..	..	..	..	1	..	1	..	..	..	2	1	3	28	14	42	
80 years and under 90 years ..	..	..	..	1	..	1	..	..	..	6	2	8	7	2	9	
90 years and over .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	2
<b>Totals, Ipswich Mental Hospital ..</b>	<b>38</b>	<b>22</b>	<b>60</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>23</b>	<b>12</b>	<b>35</b>	<b>370</b>	<b>208</b>	<b>578</b>	
<b>Grand Totals all Hospitals</b>	<b>584</b>	<b>544</b>	<b>1,128</b>	<b>278</b>	<b>342</b>	<b>620</b>	<b>36</b>	<b>57</b>	<b>93</b>	<b>184</b>	<b>167</b>	<b>351</b>	<b>2,362</b>	<b>2,151</b>	<b>4,513</b>	

TABLE C.

OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Accountant ..	4	..	4	2	..	2	..	..	..	6	..	6
Architect ..	2	..	2	..	..	..	..	..	..	2	..	2
Artist ..	1	..	1	..	..	..	..	..	..	1	..	1
Baker ..	1	..	1	..	..	..	..	..	..	1	..	1
Bank Manager ..	1	..	1	..	..	..	..	..	..	1	..	1
Barman ..	1	..	1	..	..	..	..	..	..	1	..	1
Billiard Marker ..	..	..	..	1	..	1	..	..	..	1	..	1
Blacksmith ..	2	..	2	..	..	..	..	..	..	2	..	2
Boarding House Proprietor ..	..	1	1	..	..	..	..	..	..	..	1	1
Boilermaker ..	2	..	2	..	..	..	..	..	..	2	..	2
Boundary Rider ..	1	..	1	..	..	..	..	..	..	1	..	1
Bus Driver ..	..	..	..	..	..	..	1	..	1	1	..	1
Bus Proprietor ..	..	..	..	1	..	1	..	..	..	1	..	1
Butcher ..	2	..	2	..	..	..	..	..	..	2	..	2
Cabinet Maker ..	..	..	..	1	..	1	..	..	..	1	..	1
Carpenter ..	5	..	5	2	..	2	..	..	..	7	..	7
Carters ..	1	..	1	3	..	3	..	..	..	4	..	4
Chemist ..	1	1	2	..	..	..	..	..	..	1	1	2
Children ..	4	1	5	..	..	..	24	22	46	28	23	51
Cleaner ..	3	..	3	..	..	..	..	..	..	3	..	3
Clerk ..	19	10	29	2	1	3	1	..	1	22	11	33
Cook ..	6	2	8	1	1	2	..	..	..	7	3	10
Dancing Instructor ..	..	..	..	1	..	1	..	..	..	1	..	1
Dentist ..	..	1	1	..	..	..	..	..	..	..	1	1
Domestic Duties ..	..	45	45	..	11	11	..	..	..	..	56	56
Dresser ..	..	..	..	1	..	1	..	..	..	1	..	1
Dressmaker ..	..	5	5	..	..	..	..	..	..	..	5	5
Drover ..	1	..	1	1	..	1	..	..	..	2	..	2
Electrician ..	2	..	2	..	..	..	..	..	..	2	..	2
Engineer ..	5	..	5	..	..	..	..	..	..	5	..	5
Factory Hand ..	..	4	4	..	..	..	..	..	..	..	4	4
Farmer ..	45	..	45	5	..	5	..	..	..	50	..	50
Farm Hand ..	..	1	1	1	..	1	..	..	..	1	..	1
Ferry Worker ..	1	..	1	..	..	..	..	..	..	1	..	1
Fireman ..	..	..	..	1	..	1	..	..	..	1	..	1
Fisherman ..	..	1	1	..	..	..	..	..	..	1	..	1
Fitter ..	2	..	2	..	..	..	..	..	..	2	..	2
Floral Decorator ..	..	1	1	..	..	..	..	..	..	..	1	1
Garage Proprietor ..	..	1	1	..	..	..	..	..	..	1	..	1
Gardener ..	3	..	3	2	..	2	..	..	..	5	..	5
Gas Worker ..	1	..	1	..	..	..	..	..	..	1	..	1
Glass Beveller ..	1	..	1	..	..	..	..	..	..	1	..	1
Grazier ..	2	..	2	..	..	..	..	..	..	2	..	2
Grocer ..	2	..	2	..	..	..	..	..	..	2	..	2
Hairdresser ..	..	2	2	..	..	..	..	..	..	..	2	2
Household Duties ..	..	..	..	2	..	2	..	..	..	..	2	2
Housewife ..	..	227	227	..	32	32	..	..	..	..	259	259
Insurance Inspector ..	2	..	2	..	..	..	..	..	..	2	..	2
Jockey ..	1	..	1	..	..	..	..	..	..	1	..	1
Journalist ..	1	..	1	..	..	..	..	..	..	1	..	1
Laboratory Assistant ..	..	1	1	..	..	..	..	..	..	..	1	1
Labourer ..	130	..	130	15	..	15	..	11	..	156	..	156
Linesman ..	1	..	1	..	..	..	..	..	..	1	..	1
Machinist ..	1	..	1	..	..	..	..	..	..	1	..	1
Manufacturer ..	1	..	1	..	..	..	..	..	..	1	..	1
Meatworker ..	10	..	10	..	..	..	..	..	..	10	..	10
Mechanic ..	7	..	7	1	..	1	..	..	..	8	..	8
Medical Practitioner ..	1	..	1	..	..	..	..	..	..	1	..	1
Miner ..	3	..	3	..	..	..	..	..	..	3	..	3
Moulder ..	2	..	2	..	..	..	..	..	..	2	..	2
Music Teacher ..	..	2	2	..	..	..	..	..	..	..	2	2
News Seller ..	1	..	1	..	..	..	..	..	..	1	..	1
Nil ..	3	12	15	19	14	33	..	..	..	22	26	48
Nurse ..	2	11	13	..	4	4	..	..	..	2	15	17
Packer ..	3	2	5	..	..	..	..	..	..	3	2	5
Painter ..	5	..	5	1	..	1	..	..	..	6	..	6
Pearl Diver ..	1	..	1	..	..	..	..	..	..	1	..	1
Pensioner ..	83	94	177	5	2	7	..	..	..	88	96	184
Phonogram Operator ..	..	1	1	..	..	..	..	..	..	..	1	1
Plantation Manager ..	..	..	..	1	..	1	..	..	..	1	..	1
Plasterer ..	1	..	1	..	..	..	..	..	..	1	..	1
Plumber ..	1	..	1	..	..	..	..	..	..	1	..	1
Policeman ..	2	..	2	..	..	..	..	..	..	2	..	2
Postmistress ..	..	1	1	..	..	..	..	..	..	..	1	1
Presser ..	..	..	..	..	1	..	..	..	..	..	1	1
Priest ..	1	..	1	..	..	..	..	..	..	1	..	1
Prison Wardress ..	..	1	1	..	..	..	..	..	..	..	1	1
Prospector ..	1	..	1	..	..	..	..	..	..	1	..	1
Publisher ..	1	..	1	..	..	..	..	..	..	1	..	1
R.A.A.F. ..	1	..	1	..	..	..	..	..	..	1	..	1
Radio Technician ..	1	..	1	..	..	..	..	..	..	1	..	1
Railway Employee ..	13	..	13	1	..	1	..	..	..	14	..	14
Retired Farmer ..	1	..	1	..	..	..	..	..	..	1	..	1

TABLE C.—*continued.*OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1954.—*continued.*

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Totals.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Ringbarker ..	..	..	..	1	..	1	..	..	..	1	..	1
Road Contractor ..	2	..	2	..	..	..	..	..	..	2	..	2
Salesman ..	6	..	6	..	..	..	..	..	..	6	..	6
School Teacher ..	2	3	5	..	..	..	..	..	..	2	3	5
Seaman ..	1	..	1	..	..	..	..	..	..	1	..	1
Shed Hand ..	..	..	..	1	..	1	..	..	..	1	..	1
Shop Assistant ..	2	4	6	2	1	3	..	..	..	4	5	9
Showman ..	1	..	1	..	..	..	..	..	..	1	..	1
Soldier ..	1	..	1	..	..	..	..	..	..	1	..	1
Solicitor ..	1	..	1	..	..	..	..	..	..	1	..	1
Station Hand ..	6	..	6	1	..	1	..	..	..	7	..	7
Station Manager ..	3	..	3	..	..	..	..	..	..	3	..	3
Stenographer ..	..	6	6	..	1	1	..	..	..	..	7	7
Stockman ..	..	..	..	1	..	1	..	..	..	1	..	1
Storekeeper ..	..	..	..	1	..	1	..	..	..	1	..	1
Storeman ..	2	..	2	2	..	2	..	..	..	4	..	4
Student ..	1	..	1	..	..	..	..	..	..	1	..	1
Tailoress ..	2	5	7	..	..	..	..	..	..	2	5	7
Telephonist ..	..	1	1	..	..	..	..	..	..	..	1	1
Timber Worker ..	6	..	6	..	..	..	..	..	..	6	..	6
Truck Driver ..	3	..	3	..	..	..	..	1	..	4	..	4
Unknown ..	13	6	19	..	..	..	..	..	..	13	6	19
Waiter ..	1	..	1	..	..	..	..	..	..	1	..	1
Waitress ..	..	1	1	..	..	..	..	..	..	..	1	1
Watchman ..	1	..	1	..	..	..	..	..	..	1	..	1
Watersider Worker ..	9	..	9	..	..	..	..	..	..	9	..	9
Welder ..	..	..	..	1	..	1	..	..	..	1	..	1
Well Borer ..	..	..	..	..	..	..	..	..	..	..	..	..
Wool Classer ..	..	..	..	..	..	..	..	..	..	..	..	..
Yardman ..	..	..	..	..	..	..	..	..	..	..	..	..
Zoologist ..	..	1	..	1	..	..	..	..	..	1	..	1
<b>Totals</b> ..	<b>468</b>	<b>452</b>	<b>920</b>	<b>78</b>	<b>70</b>	<b>148</b>	<b>38</b>	<b>22</b>	<b>60</b>	<b>584</b>	<b>544</b>	<b>1,128</b>

TABLE CI.

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1954.

Marital Status.	Admissions.			Discharges.						Deaths.			Remaining.		
				Recovered.			Relieved or not Improved.								
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
BRISBANE MENTAL HOSPITAL.															
Single ..	266	122	388	156	110	266	8	2	10	36	28	64	1,002	599	1,601
Married ..	149	215	364	67	164	231	4	6	10	58	31	89	264	498	762
Widowed ..	45	106	151	10	31	41	1	..	1	31	53	84	59	211	270
Divorced ..	8	7	15	2	2	4	..	..	..	1	2	3	16	16	32
Unknown ..	..	2	2	..	..	..	..	..	..	..	..	..	12	1	13
<b>Totals, Brisbane Mental Hospital ..</b>	<b>468</b>	<b>452</b>	<b>920</b>	<b>235</b>	<b>307</b>	<b>542</b>	<b>13</b>	<b>8</b>	<b>21</b>	<b>126</b>	<b>114</b>	<b>240</b>	<b>1,353</b>	<b>1,325</b>	<b>2,678</b>
TOOWOOMBA MENTAL HOSPITAL.															
Single ..	41	35	76	17	9	26	14	16	30	20	22	42	533	342	875
Married ..	31	25	56	14	20	34	5	18	23	12	10	22	69	216	285
Widowed ..	6	9	15	5	3	8	1	11	12	2	7	9	15	43	58
Divorced ..	..	1	1	1	..	1	..	1	1	..	2	2	5	13	18
Unknown ..	..	..	..	..	..	..	..	..	..	1	..	1	17	4	21
<b>Totals, Toowoomba Mental Hospital</b>	<b>78</b>	<b>70</b>	<b>148</b>	<b>37</b>	<b>32</b>	<b>69</b>	<b>20</b>	<b>46</b>	<b>66</b>	<b>35</b>	<b>41</b>	<b>76</b>	<b>639</b>	<b>618</b>	<b>1,257</b>
IPSWICH MENTAL HOSPITAL.															
Single ..	34	22	56	3	3	6	3	1	4	20	8	28	306	154	460
Married ..	3	..	3	2	..	2	..	1	1	2	3	5	45	37	82
Widowed ..	..	..	..	1	..	..	1	..	1	1	..	1	5	9	14
Divorced ..	..	..	..	..	..	..	..	..	..	..	..	..	4	6	10
Unknown ..	..	..	..	..	..	..	..	..	..	..	1	1	10	2	12
<b>Totals, Ipswich Mental Hospital</b>	<b>38</b>	<b>22</b>	<b>60</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>23</b>	<b>12</b>	<b>35</b>	<b>370</b>	<b>208</b>	<b>578</b>
<b>Grand Totals, all Hospitals ..</b>	<b>584</b>	<b>544</b>	<b>1,128</b>	<b>278</b>	<b>342</b>	<b>620</b>	<b>36</b>	<b>57</b>	<b>93</b>	<b>184</b>	<b>167</b>	<b>351</b>	<b>2,362</b>	<b>2,151</b>	<b>4,513</b>

TABLE CII.  
LENGTH OF RESIDENCE IN THE HOSPITAL OF THE PATIENTS WHO WERE DISCHARGED OR WHO DIED DURING THE YEAR AND OF THOSE WHO REMAINED ON THE BOOKS OF THE HOSPITAL ON 30TH JUNE, 1954.

	Discharges.						Deaths.			Remaining.		
	Recovered.			Relieved and not Improved.								
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
BRISBANE MENTAL HOSPITAL.												
Under 1 month .. ..	32	18	50	5	..	5	34	19	53	53	30	83
1 month and under 3 months .. ..	57	99	156	3	1	4	20	17	37	58	75	133
3 months and under 6 months .. ..	75	92	167	..	5	5	20	19	39	71	71	142
6 months and under 9 months .. ..	24	37	61	2	1	3	7	8	15	54	64	118
9 months and under 12 months .. ..	13	23	36	1	..	1	4	5	9	50	41	91
1 year and under 2 years .. ..	22	18	40	1	..	1	10	13	23	135	149	284
2 years and under 3 years .. ..	6	7	13	..	..	..	7	6	13	109	106	215
3 years and under 5 years .. ..	4	7	11	1	1	2	9	8	17	133	143	276
5 years and under 7 years .. ..	..	2	2	..	..	..	3	6	9	100	129	229
7 years and under 10 years .. ..	..	1	1	2	..	..	2	5	7	118	129	247
10 years and under 12 years .. ..	..	..	3	3	..	..	3	3	6	64	66	130
12 years and under 15 years .. ..	..	1	..	1	..	..	1	1	2	96	110	206
15 years and under 20 years .. ..	..	..	..	..	..	..	5	..	5	103	92	195
20 years and over .. ..	..	..	..	..	..	..	1	4	5	209	120	329
<b>Totals, Brisbane Mental Hospital</b> ..	<b>235</b>	<b>307</b>	<b>542</b>	<b>13</b>	<b>8</b>	<b>21</b>	<b>126</b>	<b>114</b>	<b>240</b>	<b>1,353</b>	<b>1,325</b>	<b>2,678</b>
TOOWOOMBA MENTAL HOSPITAL.												
Under 1 month .. ..	9	6	15	8	5	13	3	..	3	9	6	15
1 month and under 3 months .. ..	15	11	26	2	11	13	2	..	2	4	4	8
3 months and under 6 months .. ..	8	4	12	2	2	4	..	..	..	9	15	24
6 months and under 9 months .. ..	1	3	4	..	2	2	..	1	1	9	9	18
9 months and under 12 months .. ..	2	..	2	1	3	4	..	1	1	7	10	17
1 year and under 2 years .. ..	1	5	6	5	7	12	2	2	4	23	22	45
2 years and under 3 years .. ..	..	2	2	..	1	1	3	1	4	14	20	34
3 years and under 5 years .. ..	..	1	1	..	1	1	3	2	5	43	34	77
5 years and under 7 years .. ..	..	..	..	..	..	..	1	2	3	37	26	63
7 years and under 10 years .. ..	..	1	..	1	..	1	1	..	5	5	59	46
10 years and under 12 years .. ..	..	..	..	1	1	2	..	1	1	28	21	49
12 years and under 15 years .. ..	..	..	..	..	..	..	3	2	5	50	43	93
15 years and under 20 years .. ..	..	..	..	..	2	2	2	4	6	89	73	162
20 years and Over .. ..	..	..	..	1	10	11	16	20	36	258	289	547
<b>Totals, Toowoomba Mental Hospital</b>	<b>37</b>	<b>32</b>	<b>69</b>	<b>20</b>	<b>46</b>	<b>66</b>	<b>35</b>	<b>41</b>	<b>76</b>	<b>639</b>	<b>618</b>	<b>1,257</b>
IPSWICH MENTAL HOSPITAL.												
Under 1 month .. ..	..	..	..	1	..	1	2	2	4	4	4	8
1 month and under 3 months .. ..	..	..	..	2	..	2	4	2	6	7	2	9
3 months and under 6 months .. ..	1	1	2	..	..	..	1	..	1	9	7	16
6 months and under 9 months .. ..	1	2	3	..	..	..	..	..	..	9	1	10
9 months and under 12 months .. ..	..	..	..	..	..	..	2	..	2	7	..	7
1 year and under 2 years .. ..	1	..	1	..	1	1	..	2	2	40	14	54
2 years and under 3 years .. ..	1	..	1	..	..	..	1	..	1	23	13	36
3 years and under 5 years .. ..	..	..	..	..	..	..	1	..	1	26	18	44
5 years and under 7 years .. ..	..	..	..	..	..	..	..	2	2	15	22	37
7 years and under 10 years .. ..	..	..	..	..	..	1	1	1	2	49	17	66
10 years and under 12 years .. ..	1	..	1	..	..	..	1	..	1	30	35	65
12 years and under 15 years .. ..	..	..	..	..	..	..	1	..	1	29	11	40
15 years and under 20 years .. ..	..	..	..	..	1	1	4	..	4	41	23	64
20 years and Over .. ..	1	..	1	..	..	..	5	3	8	81	41	122
<b>Totals, Ipswich Mental Hospital</b> ..	<b>6</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>23</b>	<b>12</b>	<b>35</b>	<b>370</b>	<b>208</b>	<b>578</b>
<b>Grand Totals, all Hospitals</b> .. ..	<b>278</b>	<b>342</b>	<b>620</b>	<b>36</b>	<b>57</b>	<b>93</b>	<b>184</b>	<b>167</b>	<b>351</b>	<b>2,362</b>	<b>2,151</b>	<b>4,513</b>

TABLE CIII.  
EXPENDITURE TABLE FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1954.

	Brisbane Mental Hospital.			Toowoomba Mental Hospital.			Ipswich Mental Hospital.			Total and Average Costs.		
	Average Number Daily Resident.			2,438.			1,222.			559.		
Total expenditure .. ..	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Sales .. ..	738,749	5	1	318,138	16	7	226,799	3	1	1,283,687	4	9
Net Expenditure .. ..	2,618	10	10	903	17	0	610	2	0	4,132	9	10
Gross cost per Patient per annum .. ..	303	0	3	260	2	9	405	14	3	304	5	3
Net cost per Patient per annum .. ..	301	2	5	259	12	0	404	12	7	303	5	8
Gross cost per Patient per week .. ..	5	16	6	5	0	0	7	16	0	5	17	0
Net cost per Patient per week .. ..	5	15	10	4	19	10	7	15	7	5	16	8

TABLE CIV.

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF PUBLIC WORKS AT MENTAL HOSPITALS AND THE EPILEPTIC HOME DURING THE FINANCIAL YEAR ENDED 30TH JUNE, 1954.

		Expenditure, 1953-54.									
		Revenue.			Loan.			Total.			
		£	s.	d.	£	s.	d.	£	s.	d.	
Mental Hospitals—											
Brisbane (Excluding Expenditure at the Repatriation Hospital)	.. .. .. .. ..	1,497	8	2	89,149	5	9	90,646	13	11	
Charters Towers	.. .. .. .. ..	82	4	2	85,909	7	4	85,991	11	6	
Ipswich	.. .. .. .. ..	918	2	6	1,039	1	7	1,957	4	1	
Toowoomba	.. .. .. .. ..	4,614	10	3	2,762	16	6	7,377	6	9	
Epileptic Home—Toowoomba	.. .. .. .. ..	1,722	11	3	538	15	5	2,261	6	8	
		£8,834	16	4	£179,399	6	7	£188,234	2	11	

## DETAILS OF EXPENDITURE ON MAJOR WORKS.

		Expenditure. 1953-54.	
		£	s. d.
Mental Hospitals—			
Brisbane	.. .. .. .. ..	Erection of Various Buildings, &c., Recreation Grounds for Female Patients Additions and alterations to Lavatories, Bathrooms, &c., Nurses' Quarters .. Erection of Ward A—Farm Colony .. Additions and alterations to Kitchen, &c. Installation of Sewerage System—Farm Ward Colony .. Dining and Recreation Block—Farm Colony .. Alterations and Paving Yards—Female Wards 1 and 2 .. .. .. ..	1,188 9 7 5,309 18 8 46,410 12 4 25,521 15 2 1,722 10 8 5,149 16 6 2,657 8 3
Charters Towers	.. .. .. .. ..	Erection of Male and Female Admission Wards .. .. .. .. .. Erection of Admission Ward Fences .. Construction of Footpaths, Service Roads and Water Channelling .. .. .. ..	81,533 5 11 1,666 13 3 1,326 15 4
Toowoomba	.. .. .. .. ..	External Painting of Various Buildings Alterations and Improvements to Nurses' Accommodation .. .. .. ..	3,082 4 2 1,580 8 9
Epileptic Home—			
Toowoomba	.. .. .. .. ..	External Painting, &c. .. .. .. ..	1,113 2 6

TABLE CV.

POPULATION CHANGES AT EPILEPTIC HOME DURING THE YEAR 1253-54.

PATIENTS AT 30TH JUNE, 1953 : MALES 45 ; FEMALES 60 ; TOTAL 105.

FOR YEAR ENDED 30TH JUNE, 1254.

Age.	Admitted.		Discharged.		To Ment. Hosp.		Deaths.		Remaining.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Under 5	.. .. .. .. ..	1	..	2	..	..	..	..	..	..	..
5-10	.. .. .. .. ..	..	1	..	..	..	..	..	1	1	2
10-15	.. .. .. .. ..	6	2	2	1	2	..	..	7	5	12
15-20	.. .. .. .. ..	5	1	..	..	..	..	..	8	7	15
20-25	.. .. .. .. ..	..	..	..	..	..	..	..	3	3	6
25-30	.. .. .. .. ..	..	..	..	..	..	1	..	9	6	15
30-35	.. .. .. .. ..	..	..	..	..	..	2	..	2	6	8
35-40	.. .. .. .. ..	..	..	..	..	..	1	..	1	7	8
40-45	.. .. .. .. ..	..	..	..	..	..	1	..	6	8	14
45-50	.. .. .. .. ..	..	..	..	..	..	1	..	6	4	10
50-55	.. .. .. .. ..	..	..	..	..	..	..	..	1	5	6
55-60	.. .. .. .. ..	..	..	..	..	..	..	..	4	4	4
60-65	.. .. .. .. ..	..	..	..	..	..	..	..	4	2	6
Over 65	.. .. .. .. ..	..	..	..	..	..	..	..	..	2	2
Totals	.. .. .. .. ..	12	5	4	2	2	2	4	..	48	60
											108

## PATIENTS RESIDENT—

Under 5 years	..	..	..	..	..	..	31
5-10	..	..	..	..	..	..	26
10-15	..	..	..	..	..	..	19
15-20	..	..	..	..	..	..	17
Over 20	..	..	..	..	..	..	15

## CAUSES OF DEATH—

- Male aged 42. Coronary Occlusion, Broncho-pneumonia.  
 Male aged 34. Cerebral Thrombosis, Cerebral Degeneration, Epilepsy.  
 Male aged 34. Acute Myocarditis, Chronic Epilepsy, Jacksonian Fracture of Skull and Surgical Decompression.  
 Male aged 26. Cerebral Softening, Chronic Epilepsy, Mental Deficiency.

TABLE CVI.

EXPENDITURE TABLE, EPILEPTIC HOME, FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1954.  
 Average Number Daily Resident—108.

							£	s.	d.
Gross Expenditure	..	..	..	..	..	..	29,337	16	8
Collections ..	..	..	..	..	..	..	9,749	19	6
Net Expenditure ..	..	..	..	..	..	..	19,587	17	2
Gross cost per patient per annum	..	..	..	..	..	..	271	12	11
Net cost per patient per annum ..	..	..	..	..	..	..	188	6	11
Gross cost per patient per week ..	..	..	..	..	..	..	5	4	6
Net cost per patient per week ..	..	..	..	..	..	..	3	12	5

TABLE CVII.

YEARLY SUMMARY OF PATIENTS TREATED AT THE PSYCHIATRIC CLINIC, CLASSIFIED IN AGE GROUPS ACCORDING  
TO DIAGNOSIS, 1953-54.

	0-4.		5-9.		10-14.		15-19.		20-29.		30-39.		40-49.		50-59.		60&over		Total.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Schizophrenia .. ..	..	..	..	..	..	..	1	2	3	6	17	11	14	5	5	..	..	..	..	24	40	64	
Manic-Depressive .. ..	..	..	..	..	..	..	..	..	..	1	..	2	2	1	1	1	3	1	3	6	9	15	
Depressional Involutional .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	3	3	
Paranoic and Para. States .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	..	2	1	..	7	8	
Organic .. ..	..	..	1	1	5	..	1	..	2	2	3	..	1	..	..	1	3	1	5	1	21	6	
																				52	65	117	
Anxiety .. ..	..	1	..	1	1	1	..	1	..	5	4	3	14	2	5	1	4	..	1	15	29	44	
Hysteric .. ..	..	..	1	..	1	..	..	..	3	1	1	..	1	..	2	..	..	..	..	3	7	10	
Hystero-Anxiety .. ..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	..	..	..	..	..	2	1	3	
Obsessive-Compulsive .. ..	..	..	..	..	1	..	..	..	2	..	2	..	1	..	1	1	..	..	..	7	1	8	
Neurotic Depression .. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	1	2	3	
Other Psychoneuroses .. ..	..	..	..	..	..	..	1	..	..	1	4	..	2	2	..	1	..	..	..	7	4	11	
																				35	44	79	
Alcoholism and Drug Addiction .. ..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	2	1	..	3	3	6
Inadequate and Immature Personality .. ..	..	..	..	..	6	2	3	..	2	..	2	..	..	..	..	..	..	..	..	13	2	15	
Deviant Personality .. ..	..	..	..	..	4	1	4	5	8	4	3	2	5	..	..	1	..	..	..	24	13	37	
																				37	15	52	
Epilepsy .. ..	..	1	..	3	2	4	..	3	..	4	1	1	3	1	1	..	..	..	..	..	17	7	24
Behaviour Problem .. ..	..	11	3	31	10	19	9	1	..	..	..	..	..	..	..	..	..	..	..	62	22	84	
Mental Deficiency .. ..	..	8	4	6	8	1	3	1	4	4	4	2	3	2	..	1	..	..	1	23	25	48	
Borderline Deficiency .. ..	..	..	..	1	3	1	..	..	..	..	..	..	..	..	..	1	..	..	..	2	4	6	
																				25	29	54	
Educational Backwardness .. ..	..	..	..	3	1	2	2	..	..	..	..	..	..	..	..	..	..	..	..	5	3	8	
Stammering .. ..	..	3	2	11	4	5	4	4	..	6	1	1	1	3	..	..	..	..	..	33	12	45	
Alalia .. ..	..	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	2	6	
Dyslalia and Ret. Sp. Devt. .. ..	19	7	18	8	..	1	1	1	2	..	..	..	..	..	..	..	..	..	..	40	17	57	
Cleft Palate .. ..	..	3	2	2	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	6	3	9	
Aphasia .. ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	3	1	4	
Laryngectomy .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	3	
Partially Deaf .. ..	..	3	1	2	1	1	1	1	3	1	..	1	2	..	..	..	..	..	..	9	8	17	
Aphonia and Dysphonia .. ..	..	..	..	..	1	..	1	1	..	1	..	..	..	1	..	..	..	..	..	2	..	2	
Other .. ..	..	..	..	..	..	1	1	1	..	1	..	..	..	..	..	..	..	..	..	1	3	4	
																				100	47	147	
N.A.D. .. ..	..	5	..	5	3	4	3	4	3	1	3	1	1	1	..	1	1	..	..	22	14	36	
Not yet diagnosed .. ..	..	2	..	3	1	2	1	2	..	..	1	2	1	1	1	..	1	..	..	12	6	18	
Grand Total .. ..	..	61	21	104	47	51	31	34	26	49	35	34	44	18	24	9	16	10	11	370	255	625	

Diagnostic Testing at Brisbane Mental Hospital—Males 4 ; Females, 7 ; Total, 11.  
Referred by Mental Hospitals—Males, 15 ; Females, 32 ; Total, 47.

TABLE CVIII.

SHOWING ADMISSIONS, DISCHARGES, AND DEATHS AT THE WACOL REPATRIATION PAVILION DURING THE YEAR ENDED 30TH JUNE, 1954.

Total number of patients on books as at 30th June, 1953 .. .. .. .. ..	101	Total number of patients on books as at 30th June, 1954 .. .. .. .. ..	105
Transferred from Brisbane Mental Hospital ..	90	Total number of patients on leave as at 30th June, 1954 .. .. .. .. ..	8
Transferred from Ipswich Mental Hospital ..	1	Total number of patients in residence as at 30th June, 1954 .. .. .. .. ..	97
	192	Average number of patients daily resident ..	94
Discharged, recovered .. ..	23		
Discharged, not improved .. ..	1		
Discharged, Section 49 .. ..	4		
Voluntary left .. ..	6		
Died .. .. .. ..	2		
Transferred to Brisbane Mental Hospital	51		
	87		

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## DIVISION OF LABORATORY SERVICES.

## LABORATORY OF MICROBIOLOGY AND PATHOLOGY.

Director: J. I. TONGE, M.B., B.S. (Syd.), Dip. Clin. Path. (Syd.).

Deputy Director: M. J. J. O'REILLY, M.B., B.S. (Syd.).

Senior Bacteriologist and Technical Supervisor: H. E. BROWN.

## 1. STATISTICAL SUMMARY.

## 2. LABORATORY DEVELOPMENT.

- (a) Accommodation Requirements.
- (b) Staff.
  - (i.) Additional Medical Officer.
  - (ii.) Haematology.
  - (iii.) Histology Technician.

## 3. SEROLOGY OF THE "PYREXIAS OF UNKNOWN ORIGIN."

- (a) Leptospirosis.
- (b) Q. fever.
- (c) Scrub Typhus.

## 4. BACTERIOLOGY.

- (a) Investigation of Food Poisoning Attributed to Ice Cream.
- (b) Bacteriological Examination of Desiccated Cocoanut.
- (c) Isolation of Salmonellas.

## 5. TUBERCULOSIS LABORATORY.

## 6. BIOCHEMISTRY.

## 7. CITY MORGUE.

## 8. PUBLICATIONS.

TABLE CIX.

## I. BACTERIOLOGY.

## A. Specimens of Human Origin.

Specimen.	Mode of Examination.	Number.
Swabs—		
Throat .. .	{ Culture .. ..	2,563
Nose .. .	Direct Smear ..	63
	{ Antibiotic Sensitivity Tests ..	122
Urethra .. .	{ Culture .. ..	871
Cervix .. .	Direct Smear ..	4,760
Bartholin's Gland	{ Antibiotic Sensitivity Tests ..	47
Anus .. .		
Ear .. .	{ Culture .. ..	19
	Direct Smear ..	16
	{ Antibiotic Sensitivity Tests ..	95

TABLE CIX.—continued

## A. Specimens of Human Origin—continued.

Specimen.	Mode of Examination.	Number.
Eye .. .	{ Culture .. ..	8
	Direct Smear ..	5
	{ Antibiotic Sensitivity Tests ..	43
Nose .. .	{ Culture .. ..	1
	Direct Smear ..	1
	{ Culture .. ..	4
Mouth .. .	Direct Smear ..	4
	{ Antibiotic Sensitivity Tests ..	23
	{ Culture .. ..	1
Scalp .. .	Direct Smear ..	2
Pertioneum ..	Direct Smear ..	1
Sinus .. .	{ Culture .. ..	1
	Direct Smear ..	1
	{ Antibiotic Sensitivity Tests ..	8
	{ Culture .. ..	2
Leg .. .	Direct Smear ..	2
	{ Antibiotic Sensitivity Tests ..	17
	{ Culture .. ..	1
Toe .. .	Direct Smear ..	1
	{ Culture .. ..	1
	Direct Smear ..	1
Neck .. .	Direct Smear ..	1
	{ Antibiotic Sensitivity Tests ..	9
	{ Culture .. ..	1
Skin .. .	{ Antibiotic Sensitivity Tests ..	9
	Culture .. ..	34
	Direct Smear ..	23
Pus .. .	Animal Inoculation ..	1
	{ Antibiotic Sensitivity Tests ..	162
	{ Culture .. ..	14
Pleural Fluid ..	Microscopical ..	18
	{ Culture .. ..	43
Cerebrospinal Fluid ..	Microscopical ..	99
	Animal Inoculation ..	1
Seminal Fluid ..	Microscopical ..	21
	{ Culture .. ..	2
Synovial Fluid ..	Microscopical ..	2
	{ Culture .. ..	2
Asetic Fluid ..	Microscopical ..	4
	{ Culture .. ..	1
Pericardial Fluid ..	Microscopical ..	1

TABLE CIX.—*continued.*

Specimen.	Mode of Examination.	Number.
Hydrocoele Fluid ..	Culture .. Microscopical .. Antibiotic Sensitivity Tests ..	1 1 9
Prostatic Fluid ..	Culture .. Direct Smear .. Antibiotic Sensitivity Tests ..	1 1 9
Fluid from Cyst ..	Microscopical ..	2
Fluid from Sinus ..	Culture .. Direct Smear .. Antibiotic Sensitivity Tests ..	1 1 9
Serous Exudate ..	Dark Ground Microscopy .. Culture .. Direct Smear ..	7 44 2,878
Sputum ..	Direct Smear .. Antibiotic Sensitivity Tests ..	38 61
Blood ..	Culture .. Direct Smear ..	48 1
Urine ..	Culture .. Microscopical .. Antibiotic Sensitivity Tests ..	781 1,667 878
Faeces ..	Microscopical .. Antibiotic Sensitivity Tests ..	29 18
Gastric Contents ..	Culture .. Direct Smear ..	1 2
Post-Mortem Swabs and Tissues ..	Culture .. Direct Smear ..	41 29
Virulence Tests for Corynebacterium Diphtheriae ..	..	68
		16,197

## TUBERCULOSIS SECTION.

Specimen.	Mode of Examination.	Number.
Sputum ..	Culture .. Direct Smear .. Sensitivity Tests ..	3,031 3,031 6
Gastric Contents ..	Culture .. Animal Inoculation ..	1,718 929
Laryngeal Swab ..	Culture .. Culture ..	652 47
Urine ..	Microscopical .. Animal Inoculation .. Sensitivity Tests ..	47 40 3
Pus ..	Culture .. Direct Smear .. Animal Inoculation ..	10 10 6
Pleural Fluid ..	Microscopical .. Animal Inoculation ..	17 16
Cerebrospinal Fluid ..	Culture .. Microscopical .. Animal Inoculation ..	2 2 2
Synovial Fluid ..	Culture .. Microscopical .. Animal Inoculation ..	1 1 1
Peritoneal Fluid ..	Microscopical .. Animal Inoculation ..	1 1
Ascitic Fluid ..	Microscopical .. Animal Inoculation ..	1 1
Pericardial Fluid ..	Microscopical .. Animal Inoculation ..	1 1
Sinus Discharge ..	Culture .. Direct Smear .. Animal Inoculation ..	1 1 1
Gland ..	Direct Smear .. Animal Inoculation ..	1 1
Bronchial Swab ..	Culture .. Direct Smear ..	1 1
		9,606

TABLE CIX.—*continued.*

B. Foods and Waters.		
Specimen.	Mode of Examination.	Number.
Water ..	Culture .. Plate Count .. Microscopical ..	209 204 7
Milk ..	Plate Count .. Reducase Test ..	366 371 202
Ice Cream ..	Culture .. Plate Count ..	24 10
Ice Blocks ..	Culture ..	1
Bottled Beer ..	Culture ..	8
Oysters ..	Culture .. Plate Count ..	19
Salmon ..	Culture ..	3
Herrings in Tomato Sauce ..	Culture ..	1
Prawns ..	Culture ..	1
Sardines ..	Culture ..	1
Sausage ..	Culture ..	1
Cheerios ..	Culture ..	1
Frankfurts ..	Culture ..	1
Saveloys ..	Culture ..	1
Corned Meat ..	Culture ..	1
Tinned Ham ..	Culture ..	1
Tinned Mushrooms ..	Culture ..	1
Bread ..	Culture ..	20
Yeast ..	Culture ..	4
Flour ..	Culture ..	15
Bakerine ..	Culture ..	1
Dough ..	Culture ..	1
Volmoyst ..	Culture ..	1
Dripping ..	Culture ..	1
Jam ..	Culture ..	2
Apricots ..	Culture ..	1
Walnuts ..	Culture ..	2
Rice ..	Culture ..	1
Desiccated Coconut ..	Culture ..	126
Whole Coconuts ..	Culture ..	2
Coconut Sweets ..	Culture ..	9
Coconut Chocolate ..	Culture ..	1
Dates ..	Culture ..	2
Coconut Oil ..	Culture ..	1
Vegitol ..	Culture ..	1
Coconut Biscuits ..	Culture ..	1
Skim Milk Powder ..	Culture ..	4
Vanilla Flavour ..	Culture ..	1
Gelatine ..	Culture ..	1
Curried Savoury Rice ..	Culture ..	1
Monostearate Stabiliser ..	Culture ..	1
Ice Cream Scoop Rinse Water ..	Plate Count ..	12
		1,646
C. Various Materials.		
Specimen.	Object of Examination.	Number.
Disinfectants and Antiseptics ..	Rideal-Walker Co-efficient .. Germicidal Value ..	39 5
Detergents ..	Rideal-Walker Co-efficient .. Germicidal Value ..	2 6
Liquid Soap ..	Rideal-Walker Co-efficient ..	2
Washing Powder ..	Germicidal Value ..	2
Deodorant Fluid ..	Rideal-Walker Co-efficient ..	1
Eumenthol Jujubes ..	Germicidal Value ..	2
Bottles ..	Sterility ..	39
Glasses ..	Sterility ..	13
Jam Tin ..	Sterility ..	1
Glass Container ..	Sterility ..	1
Bacterial Cultures ..	Identification .. Antibiotic Sensitivity Tests ..	33 85
Catgut ..	Presence of <i>Cl. tetani</i> ..	2
Tissue ..	Presence of <i>Cl. tetani</i> ..	1
Cardboard Wads ..	Sterility ..	2
Sterile Wool and Dressings ..	Sterility ..	1
Field Dressings ..	Sterility ..	12
Polaroid Viewers ..	Sterility ..	3
Wool ..	Presence of <i>B. anthracis</i> ..	8

TABLE CIX.—continued.

## C. Various Materials—continued.

Specimen.	Object of Examination.	Number.
Material ..	Culture .. ..	19
Glass Washings ..	Culture .. ..	23
Swabbings from Milk Vat ..	Culture .. ..	10
Flock Filling ..	Culture .. ..	2
Kapok Filling ..	Culture .. ..	2
Fibre Filling ..	Culture .. ..	11
Septic Effluent ..	Culture .. ..	1
Floor Scrapings ..	Culture .. ..	1
Skin Scrapings ..	Presence of Fungi ..	7
Hair ..	Presence of Fungi ..	1
Rats (? Rat Leprosy)	Microscopic .. ..	2
		340

## 2. SEROLOGY.

—	Number.
<b>Serum Agglutination Tests—</b>	
<i>Eberthella typhosa</i> (O) ..	4
<i>Eberthella typhosa</i> (H) ..	2,330
<i>Salmonella paratyphi</i> (H) ..	2,270
<i>Salmonella schottmüller</i> (H) ..	2,270
<i>Proteus OX19</i> ..	2,272
<i>Proteus OXK</i> ..	2,272
<i>Brucella abortus</i> ..	2,457
<i>Leptospira icterohaemorrhagiae</i> ..	2,590
<i>Leptospira canicola</i> ..	2,591
<i>Leptospira australis</i> A ..	2,590
<i>Leptospira australis</i> B ..	2,590
"Robinson" Strain of <i>leptospira</i> ..	2,591
<i>Leptospira pomona</i> ..	2,590
<i>Leptospira mitis</i> ..	2,590
<i>Leptospira medanensis</i> ..	2,591
"Kremastos" Strain of <i>leptospira</i> ..	2,591
"Szwajizak" Strain of <i>leptospira</i> ..	2,591
"Celledoni" Strain of <i>leptospira</i> ..	2,592
<i>Leptospira grippotyphosa</i> ..	986
<i>Leptospira bataviae</i> ..	50
<i>Coxiella burnetii</i> ..	2,635
Paul Bunnell Tests ..	109
<b>Leptospiral Strains Typed (28)—</b>	
Agglutination Tests Performed in Typing ..	1,300
Leptospiral Antisera Prepared ..	30
<b>Complement Fixation Tests—</b>	
<i>Coxiella burnetii</i> —	
Routine .. .. .. ..	1,877
Quantitative .. .. .. ..	273
Rickettsialpox (Soluble)—	
Routine .. .. .. ..	1,745
Quantitative .. .. .. ..	170
Typhus Fever Murine (Soluble)—	
Routine .. .. .. ..	9
Quantitative .. .. .. ..	19
Lygranum C. F. ..	19
Eagle Wassermann (Serum)—	
Routine .. .. .. ..	5,507
Quantitative .. .. .. ..	109
Eagle Wassermann (C.S.F.) ..	148
<b>Flocculation Tests—</b>	
Kline .. .. .. ..	5,703
Kahn .. .. .. ..	1,049
Lange Colloidal Gold Reaction .. ..	104
	64,214

## 3. BIOCHEMISTRY.

Specimen.	Examined for.	Number.
Whole Blood ..	Urea .. ..	330
	Sugar .. ..	42
	Uric acid .. ..	46
	Pigments .. ..	4
	Chloride (as NaCl) ..	23
	Cholesterol .. ..	21
	Calcium .. ..	5
	Creatinin .. ..	1

TABLE CIX.—continued.

Specimen.	Examined for.	Number.
Plasma .. ..	Chloride (as NaCl) ..	2
	Amylase .. ..	1
	Protein .. ..	2
Serum .. ..	Calcium .. ..	38
	Protein .. ..	465
	Cholesterol .. ..	43
	Bilirubin .. ..	248
	Chloride (as NaCl) ..	29
	Sodium (as Na) ..	30
	Acid phosphatase ..	28
	Alkaline phosphatase ..	250
	Inorganic phosphate ..	15
	Potassium .. ..	12
	Amylase .. ..	22
	Phosphate .. ..	1
	Phosphorus .. ..	1
	Fouchet test ..	1
	Thymol turbidity ..	235
	Thymol flocculation ..	235
	Zinc sulphate turbidity ..	235
	Albumin - globulin ratio .. ..	238
	Urobilinaemia ..	19
Cerebrospinal Fluid ..	Protein .. ..	93
	Globulin .. ..	86
	Chloride (as NaCl) ..	82
	Sugar .. ..	90
	Urea .. ..	14
Fluid from Cyst ..	Cholesterol .. ..	1
	Protein .. ..	1
Pericardial Fluid ..	Urea .. ..	1
	Protein .. ..	1
	Diastase .. ..	1
	Albumin - globulin ratio .. ..	1
Urine .. ..	Albumin .. ..	1,780
	Sugar .. ..	1,792
	Pigments .. ..	12
	Bile pigments .. ..	2
	Bile .. ..	2
	Urea .. ..	5
	Diastase .. ..	7
	Protein .. ..	1
	Vitamin C. .. ..	1
	Aceto-acetic acid .. ..	1
	Calcium .. ..	1
	Chloride (as NaCl) ..	1
	Bilirubinuria .. ..	1
	Urobilinuria .. ..	1
Faeces .. ..	Total, Split and Un-split Fats .. ..	59
	Occult Blood .. ..	61
	Creatorrhoea .. ..	8
	Trypsin .. ..	1
	Fatty Acid Crystals .. ..	1
Duodenal Contents ..	Trypsin .. ..	9
Stomach Contents ..	Occult Blood .. ..	1
	Free Acid .. ..	1
	Combined Acid .. ..	1
Renal Calculi ..	Chemical constitution ..	10
		6,752

Functional Tests ..	Glucose tolerance tests .. ..	159
	Urea clearance tests .. ..	81
	Urea concentration tests .. ..	101
	Fractional test meals .. ..	162
		503

TABLE CIX.—continued.

## 4. HAEMATOLOGY.

		Number.
Cell Counts—		
Red Cells (Total) ..	.. .. ..	3,158
Red Cells (Stippled)	.. .. ..	682
Reticulocytes ..	.. .. ..	19
White Cells (Total) ..	.. .. ..	3,434
White Cells (Differential) ..	.. .. ..	3,048
Platelet Count ..	.. .. ..	56
Haemoglobin ..	.. .. ..	5,177
Haematocrit ..	.. .. ..	2,377
Sedimentation Rate ..	.. .. ..	207
Coagulation Time ..	.. .. ..	34
Bleeding Time ..	.. .. ..	33
Prothrombin Time ..	.. .. ..	5
Red Cell Fragility ..	.. .. ..	16
Blood Grouping (A.B.O.) ..	.. .. ..	2,083
Blood Grouping (Rh) ..	.. .. ..	2,095
		22,424

## 5. PARASITOLOGY.

Specimen.	Object of Examination.	Number.
Faeces .. ..	{ Amoebae (Cysts and vegetative) ..	91
	{ Helminth ova ..	240
Pus .. ..	Trichomonas vaginalis	8
Blood .. ..	{ Microfilariae ..	4
	{ Plasmodium sps. ..	25
Helminth .. ..	Identification ..	6
Arthropods .. ..	Identification ..	7
		381

## 6. VARIOUS TESTS.

		Number.
Male Toad Test (Pregnancy) .. ..		1,600
Casoni Skin Test .. ..		3
“Cat-scratch” Skin Test .. ..		3
		1,606

## 7. HISTOLOGY.

Tissues Sectioned.	Number.
Human—	
Biopsy .. .. .. ..	4,178
Post-Mortem .. .. .. ..	901
Animal—	
Guinea-pig .. .. .. ..	6
Rabbit .. .. .. ..	6
	5,091

TABLE CIX.—continued.

## 8. MEDICO-LEGAL.

Clothing—							
Blood .. .. .. ..							87
Spermatozoa .. .. .. ..							99
Various Articles—							
Blood .. .. .. ..							23
Spermatozoa .. .. .. ..							15
Smears—							
Gonorrhoea .. .. .. ..							2
Spermatozoa .. .. .. ..							19
Tissue—Examination .. .. .. ..							26
Blood—Grouping .. .. .. ..							2
Blood-Stained Articles—Determination of Blood Group of Stains .. .. .. ..							15
Bones—Identification .. .. .. ..							1
							289
Post-Mortem Examinations .. .. .. ..							569

## Attendances at Courts—

Supreme Court .. .. .. ..				20
Police Court .. .. .. ..				22
Coroner's Court .. .. .. ..				20
Other Courts .. .. .. ..				16

## 9. EXAMINATION OF RODENTS.

Rodents received for examination from Brisbane City Council :—

Classification—				
<i>Rattus norvegicus</i> .. .. .. ..				11,262
Unclassified .. .. .. ..				1,554
<i>Mus musculus</i> .. .. .. ..				5,633
				18,449

## Special Examinations for Plague—

Rats fully dissected .. .. .. ..			29
Spleen smears examined .. .. .. ..			29

No rat was found infected with *Pasteurella pestis*.

## Rat Smears received from other Centres—

Maryborough .. .. .. ..				44
Gympie .. .. .. ..				78
Sandgate .. .. .. ..				477
Wynnum .. .. .. ..				492
Meatworks (Brisbane area) .. .. .. ..				168
				1,259

## 10. MATERIAL SUPPLIED.

One hundred and sixty requisitions were supplied during the year to hospitals, private practitioners and local authorities consisting of 2,552 swabs, 2,490 McCartney bottle, 324 urine bottles, 140 blood bottles, 264 Wright's capsules, 54 faeces tins, 134 media plates, 64 broth cultures and 36 glass slides.

## 2. LABORATORY DEVELOPMENT.

During the past year there has been an increase in the volume of work carried out in almost every section and each year increasing demands are being made for laboratory service. The sections mainly involved are those concerned with Clinical Pathology, i.e., serology, haematology, bacteriology and the examination of biopsies. It would thus appear that the National Health Service, providing, as it does, payment for private pathological investigations, has had no effect on the volume of work referred to this laboratory. It may be anticipated that this increase will continue in the

future. In order to illustrate this trend an analysis of the number of tests performed in the years 1948-49, 1952-53 and 1953-54 are set out hereunder in Table CX.

TABLE CX.

	1948-49.	1952-53.	1953-54.
Bacteriology .. ..	17,305	17,514	18,184
Serology .. ..	14,089	51,828	64,714
Tuberculosis Laboratory .. ..	..	7,444	9,606
Biochemistry .. ..	3,247	5,943	7,255
Haematology .. ..	7,544	20,061	22,424
Parasitology .. ..	1,447	377	381
Various Tests (Pregnancy Tests, &c.) .. ..	209	1,737	1,606
Medico-Legal Investigations	102	388	289
Histology—			
(a) Biopsies .. ..	1,003	3,497	4,178
(b) Post-Mortem Tissues	579	1,640	901
Total.. ..	45,525	110,429	129,538
Post-Morton Examinations	487	541	569

It is gratifying that the scope of the investigations carried out and the service which this laboratory supplies to the State as a whole should be increasing, but this expansion presents many problems and these are mainly concerned with laboratory accommodation. In the past this department has received the utmost co-operation and consideration in that whatever space could be made available has been allotted to it, but the plain fact remains that further expansion is not possible as long as the laboratory remains in its present site or unless substantial additions are to be made. Trained staff are obtainable nowadays but additional laboratory accommodation is not. Since several new properties have recently been acquired by the State Government it is hoped that the provision of this additional accommodation will receive priority.

Increasing demands are constantly being made for laboratory services and already it is a cause of grave concern that some of these demands cannot be met. Several investigations commenced either at the Queensland Institute of Medical Research or in this laboratory as research projects have proved to be of such value that they should continue as routine practice and as such it is our province to continue them. As an example the bacteriological examination for gastro-enteritis of staff and children admitted to infant homes in the metropolitan area proved to be of such value in improving the standards of hygiene and the reduction of cross-infection in these homes that such examinations should now be made routinely.

Our knowledge of the cause of the "pyrexias of unknown origin" in Queensland has so markedly increased since 1951, that now each serum is submitted to a battery of twenty-two different antigens instead of the twelve previously used. As a result between 30 to 40 per cent. more cases of leptospirosis are now diagnosed in Queensland than previously.

Diagnostic kits should be prepared, sterilized and packed for despatch to all country centres where laboratory facilities do not exist. This

would be a most valuable means of improving the general standard of medicine throughout the State.

This laboratory should serve as a reference and training centre for hospital technicians and laboratories and facilities should be available for technicians to attend periodically for refresher courses and training in new techniques.

This laboratory has a record of which it may justifiably be proud and it has a vital function to perform for the city and the State as a whole. It must be able to undertake new investigations to meet whatever demands are made upon it, and to provide a more comprehensive and better service for country centres. These ideals cannot be attained with the present very limited accommodation.

*Additional Medical Officer.*—Since 1937 there have been two full-time medical officers attached to the laboratory and during the intervening seventeen years the laboratory has grown enormously. In 1937-38, 92 biopsies were examined, whereas in the present year the number of biopsies examined was 4,178. Autopsies performed were 272 in 1937-38 and in the present year 569. In addition the medical staff are responsible for the supervision of all laboratory work. It is therefore obvious that the appointment of a third medical officer is essential if acceptable standards of work are to be maintained. The appointment of this extra medical officer was not asked for since no accommodation was available for him but a rearrangement of staff accommodation has overcome this difficulty and provision for an extra medical officer is being asked for in the 1954-55 Estimates.

*Haematology.*—The demand for haematological investigations is great and always there is a backlog of patients for such tests. Recently the Red Cross Transfusion Service has requested that the routine screening of sera for Rh antibodies should be undertaken by this laboratory, an investigation which they previously undertook. Space is available for a third technician in the haematology laboratory and it is considered that a third technician is needed in the section to relieve the pressure of work and to avoid patients having to wait sometimes up to one week for such investigations. Provision will therefore be made for such appointment in the Estimates for this year.

*Histology.*—It will be seen from Table CX that the number of biopsies submitted to the laboratory for examination has steadily increased and the preparation of these sections is almost a full-time task. Since biopsies require immediate attention fewer post-mortem tissues have been sectioned during the year. This is most undesirable and many more sections from post-mortem tissues should be available for examination. Many of the autopsies carried out by the department medical officers are on persons dying from some unexpected cause and many have medico-legal importance. In addition all sudden and unexpected deaths in the neonatal period and in childhood have to be investigated and without a full and most thorough histological study it is often quite impossible to arrive at a correct diagnosis. A request for the appointment of an extra technician will be made during the coming year.

### 3. THE SEROLOGY OF THE "PYREXIAS OF UNKNOWN ORIGIN."

The investigation of the "pyrexias of unknown origin" in Queensland has been very active during the year in that more than two thousand and five hundred sera have been examined. Of these, 860 sera (773 human, 87 animal) were from the Queensland Institute of Medical Research; the remainder have been submitted by practitioners and hospitals throughout the State, as well as from New South Wales, New Zealand and elsewhere.

Scra are screened with the following battery of tests: Widal and Weil Felix, agglutination with *Coxiella burnetii*, *Brucella abortus* and the eleven strains of leptospirae known to occur in Queensland. *Leptospira grippotyphosa* has recently been introduced into the routine screen test and with some sera *L. bataviae* is now also included. Complement fixation tests with *Coxiella burnetii* and *Rickettsia akari* are also carried out on all paired sera or where the clinical history is suggestive. When indicated Complement fixation tests with *Rickettsia mooseri* and "Lygramum" also Paul Bunnell tests were performed. An agglutinating suspension of *Streptococcus MG* is available when the diagnosis of Atypical Pneumonia is suspect, but this test is not performed, as yet, as a routine.

Many practitioners now appreciate the necessity for submitting paired sera since it is often most misleading to interpret the results obtained from the examination of a single specimen of serum. Some difficulty is still experienced, however, in obtaining early specimens where their value is still not realised.

(a) *Leptospirosis*.—We have maintained during the year close collaboration with the Field Station of the Queensland Institute of Medical Research at Innisfail, and from them cultures and sera have been forwarded for examination. As a result our knowledge of leptospirosis in North Queensland has greatly increased and a mass of most valuable data has been accumulated for analysis and subsequent publication. During the year a joint paper was published describing the serological classification of 89 strains of leptospirae from North Queensland, including five serotypes new to Australia.

TABLE CXI.

THE SEROTYPING OF 104 CULTURES OF LEPTOSPIRAE FROM QUEENSLAND.

(August, 1951–July, 1954).

Serogroup.	Serotype.	Number.
Icterohaemorrhagiae ..	<i>L. icterohaemorrhagiae</i> ..	4
Canicola .. ..	<i>L. canicola</i> .. ..	8
Australis A .. ..	<i>L. australis A.</i> ..	23
Pyrogenes .. ..	<i>L. australis B.</i> ..	32
	"Robinson" ..	7
Hyos (syn. mitis (Johnson))	<i>L. mitis (Johnson)</i> ..	8
Pomona .. ..	<i>L. pomona</i> .. ..	3
Hebdomadis .. ..	<i>L. medanensis</i> ..	2
	"Kremastos" ..	15
	"Szwajizak" ..	5
	"Celledoni" ..	6
Total .. ..	..	113

During the year 28 cultures of leptospirae were typed. One of these cultures (*L. pomona*) was obtained from a patient in Southern Queensland, the remainder were all from North Queensland. In the past three years 113 cultures of leptospirae have been typed and Table CXI sets out in detail the results. All but three of these 113 cultures were from North Queensland.

All the cultures were obtained from patients except for one strain (*L. australis A*) which was isolated from a *Rattus conatus* captured on a cane farm near Babinda in North Queensland.

From this experience we have obtained fairly complete knowledge of the serotypes of leptospirae which are likely to be encountered in North Queensland and it is worthy of note that of the 113 cultures in this series 38 per cent. are of serotypes which were not known to exist in Queensland prior to 1951. By using these eleven strains in our routine screen tests we are now able to diagnose between 30-40 per cent. more cases of leptospirosis than formerly. Unfortunately few cultures have been examined from Southern Queensland, only three in this series, and we have knowledge of only three serotypes of leptospirae occurring in that area, namely, *L. icterohaemorrhagiae*, *L. pomona* and *L. hyos* (*L. mitis* Johnson). Every effort will be made to obtain cultures from cases in Southern Queensland in the future.

Blood culture is a most efficient method of diagnosing leptospirosis provided cultures are made in the first three or four days of illness while the patients are still febrile and before the administration of antibiotics. Cultures are slow to grow, taking a week or more, but they may still be positive before agglutinins appear and they do allow of the definite identification of a strain. One of the disadvantages of the cultural method is that special media is required and experience is needed to avoid contamination during the inoculation of the media. The risk of contamination is reduced and the chances of successful culture increased by inoculating two tubes of media.

From the examination of paired sera from the Research Institute's field station we were able to diagnose twenty-seven cases of leptospirosis during the year. The serotypes involved in these are as follows:—*L. australis A*—9; *L. australis B*—5; *L. pomona* and *L. medanensis*—2; *L. hyos* (*L. mitis* Johnson), *L. canicola* and "Celledoni"—1. Undetermined types—6. From other parts of North Queensland significant titres were found in patients for *L. australis A* and *L. pomona*.

From the sera submitted from various sources in Southern Queensland significant rises in titre were observed for *L. pomona*, *L. hyos* (*L. mitis* Johnson) and *L. icterohaemorrhagiae* in descending order of frequency. Two hundred and forty-five sera were submitted from outside Queensland and of these 178 were from New Zealand, 32 from Thursday Island, 27 from New South Wales, also three each from Western Australia, Victoria and one each from Manus Island and the Northern Territory. Leptospiral antibodies were found in eight of the sera from New South Wales, in five from Thursday Island and in one from Western Australia.

The New Zealand sera were of interest since there were forty-three patients from whom two or three serum specimens were examined. Of these 43 patients serum agglutination results were consistent with leptospiral infection in 31 cases and the frequency of the probable types causing the infections was *L. pomona*—21, a member of the Hebdomadis serogroup 4, *L. hyos* (*L. mitis* Johnson)—2, and indefinite—4.

In the diagnosis of leptospirosis by the examination of human sera it is absolutely essential that paired sera be available. One should aim at obtaining a serum specimen as soon after the onset of illness as possible to serve as a "base line" and a second specimen in the third week. Specific antibodies in leptospirosis appear in the second week of illness and in general increase rapidly to a maximum titre in the third to fourth week. Specific antibodies may persist for years. In our experience if antibodies for a certain serotype are present in the first week of illness one may conclude that they are not due to the organisms causing the present illness. Antibodies present in the first week of illness are most probably due to residual titres from some previous infection. The examination of the second specimen of serum, obtained after the second week of illness, will in most cases show clearly a rise in titre for the specific infecting strain but not infrequently confusion will occur due to anamnestic reactions, co-agglutinins, or residual titres from previous infections. In certain cases agglutinin-absorption tests may be necessary to reveal the specific antibody. In general a "significant rise" in titre may be defined as a tenfold increase attaining a maximum of at least 100, but there are many exceptions to this rule. In some cases, proven by culture this "significant rise" in titre was not attained and in other cases heterologous titres were found to be higher than those for the infecting strain. As an example of this the serum of a patient from whose blood *L. pomona* was cultured showed on the third day of illness no antibodies, yet on the 24th day the serum gave titres of 1:3,000 with *L. australis* A and gave only 1:1,000 with *L. pomona*. In this particular case the possibility of a previous infection with *L. australis* A. was carefully excluded. In general, however, the heterologous titres tend to fall away whereas the homologous titres will persist. This fact emphasises the necessity for obtaining in some cases further sera during the convalescent period if the infecting strain is to be ascertained by examination of sera alone.

From our study of the agglutinin curves in cases proven by culture much has been learned of the co-agglutinins that occur with the strains of leptospirae that are known in Queensland, and the study of them is continuing with a view to publication.

To be assured of detecting all cases of leptospirosis it has now become necessary to employ eleven leptospiral serotypes in our routine tests and this has become a burdensome and time-consuming task when large numbers of sera are to be examined. What is urgently required is some means of screening these sera to exclude the negative with some broad spectrum antigen. The most hopeful reports in this regard relate to a haemagglutination

technique applied by Chang in U.S.A. to leptospirosis and it is hoped to investigate this technique in relation to those strains occurring locally. Complement fixation techniques for leptospirosis appear to show less promise.

*Examination of Animal Sera and Other Investigations.*—Sera collected from 152 domestic and wild animals from various localities in North Queensland were submitted for leptospiral agglutination tests, in an endeavour to search for the animal carriers of the disease. The highest titre observed was 1:30,000 for the "Szwajizak" strain in the two *I. obesulus* captured near Mossman. The results of this survey are set out in Table CXII. and for simplicity all titres of less than 1:100 have been neglected. In many sera, particularly those from horses, the results were complex and low titres with numerous different serotypes were obtained. The incidence of agglutinins appeared lower in wild than in domestic animals. The one *Rattus conatus* from which *L. australis* A. was cultured, had an antibody titre of 1:300 with this strain. Also tabulated are the results of the examination of a series of animal sera from Central and Southern Queensland. An examination was also made of 138 sera from wild rabbits from New South Wales and these were negative with the eleven leptospiral serotypes occurring in Queensland as well as to *L. grippotyphosa*. These sera were made available by courtesy of Professor F. Fenner.

During the year a preliminary study was made of the survival of leptospirae in soil as it appeared to us that additional data on this subject was desirable and that it was a matter of very great epidemiological importance. Soil from an area where leptospirosis was known to occur was obtained and a series of experiments were carried out involving the inoculation of the soil with *L. australis* A. in Fletcher's medium. The soil was moistened and after periods ranging from eight to 43 days the soil was flooded with rain water. Then after a further three days the excess surface water was collected and run into the subcutaneous tissues of guinea-pigs by continuous drip method. It was found that guinea-pigs could be infected from the surface water with leptospirae which had survived in the moistened soil for periods up to 43 days. It is intended to continue this investigation and to study the survival time of leptospirae in relation to soil types, Ph, moisture, etc.

As the majority of running waters in North Queensland are distinctly acid in their reaction, in areas where leptospirosis is known to occur it was decided to investigate the behaviour of leptospirae in acid media. In our limited experiments we found that all the Queensland strains would multiply in a modified Schüffner medium, having a Ph of 6.6. The strains were deleteriously affected after exposure to a Ph of 6.2 and died out after several days. In such experiments we found it essential to determine the Ph of the Schüffner medium after the addition of the rabbit serum since the serum caused an appreciable rise in the Ph of our Schüffner base.

Subcultures of the newly isolated Queensland leptospiral strains have been forwarded to New Zealand, Amsterdam, London, Washington D.C. and to the School of Tropical Medicine in Sydney.

(b) *Q. fever*.—Both the complement fixation and the agglutination tests are used as a routine and an attempt has been made to evaluate the efficiency of the two methods of investigation. Considerable difficulty has been experienced in this evaluation, however, due to marked variation in the sensitivity of various batches of the agglutinating suspension of *Coxiella burnetii* commercially available. The complement fixation antigen obtained from overseas appears to give consistent and reproducible results. No satisfactory commercial complement fixation antigen for *C. burnetii* is as yet available in Australia. In our hands the complement fixation test seems to give more reliable and consistent results and appears to be the more useful test for general use. The evaluation of the two techniques is continuing.

A survey of as many of the earliest known cases of *Q. fever* as could be found has been completed and both agglutination and complement fixation tests have been carried out on their serum. It is hoped to publish in the near future a detailed analysis of the duration of both agglutination and complement fixing antibodies in these cases, some of which were infected as long ago as 1935.

(c) *Scrub Typhus*.—Agglutination tests with *Proteus OXK* have been made on all cases of Scrub typhus which were confirmed by inoculation of mice in the series from the Field Station of the Queensland Institute of Medical Research and this has afforded a unique opportunity for the assessment of the efficiency of the agglutination test in the diagnosis of this disease.

Scrub typhus was diagnosed in 31 cases by mouse inoculation and agglutination tests carried out on paired sera from these patients gave the following results:

Titres with <i>Proteus OXK</i> of titre less than 20 ..	8
Titres with <i>Proteus OXK</i> of titre 20-40 ..	7
Titres with <i>Proteus OXK</i> of titre 80 ..	3
Titres with <i>Proteus OXK</i> of titre 100 or greater ..	13
Total .. .. .. .. ..	31

If one is to regard a titre of 1:100 as being the lowest acceptable diagnostic titre these results show that only 42 per cent. of proven cases have been diagnosed by the Weil Felix test. This finding is disturbing in that the agglutination test with *Proteus OXK* is the only readily available method of diagnosing this disease in most laboratories. Due to the wide variation in strains it has not been possible to prepare a satisfactory complement fixation antigen and this test is at present regarded as being considerably less reliable than the Weil Felix test. Mouse inoculation is obviously not a method for routine diagnosis as it is too expensive and cumbersome.

The diagnosis of Scrub typhus thus presents a major problem and the most hopeful avenues would appear to lie in a continued search for a strain from which a broad-spectrum complement fixation antigen can be prepared.

During the year we have encountered further examples of sera giving agglutination titres with *Proteus OXK* from patients who have diseases quite unrelated to Scrub typhus. These have

TABLE CXII.  
EXAMINATION OF ANIMAL SERA FOR LEPTOSPIRAL AGGLUTININS.

Species.	Number Examined.	Number Positive at 1:100 or greater.	<i>icterohaemorrhagiae</i> .	<i>canis</i> .	<i>australis A.</i>	<i>australis B.</i>	<i>pomona</i> .	<i>hyos.</i>	<i>medenensis</i> .	" Celledoni."	" Robinson."	" Urematos."	" Szwajizak."	Undetermined.
North Queensland.														
Horse .. .. .. ..	28	13	2	..	1	..	5	1	..	..	..	..	..	4
Cow .. .. .. ..	29	10	..	..	1	..	3	5	..	..	..	..	..	1
Dog .. .. .. ..	30	14	..	1	5	2	1	1	1	..	..	2	..	1
Bandicoots—														
<i>Isoodon obesulus</i> .. .. ..	15	5	..	..	1	..	1	..	..	..	..	..	2	1
<i>Perameles nasuta</i> .. .. ..	2	1	..	..	..	..	..	..	..	1	..	..	..	..
Unidentified .. .. ..	6	2	..	..	1	..	..	..	..	..	..	..	1	..
Possom—														
<i>Trichosurus vulpecula</i> ..	15	1	..	..	..	..	..	..	1	..	..	..	..	..
<i>Rattus rattus</i> .. ..	15	0	..	..	..	..	..	..	..	..	..	..	..	..
<i>R. conatus</i> .. .. ..	1	1	..	..	1	..	..	..	..	..	..	..	..	..
Other rats .. .. ..	11	0	..	..	..	..	..	..	..	..	..	..	..	..
Various animals .. .. ..	8	0	..	..	..	..	..	..	..	..	..	..	..	..
	160	47	2	1	10	2	10	7	2	1	..	2	3	7
Central and South Queensland.														
Horse .. .. .. ..	2	1	1	..	..	..	..	..	..	..	..	..	..	..
*Sheep .. .. .. ..	20	0	..	..	..	..	..	..	..	..	..	..	..	..
Bandicoot—														
<i>Isoodon obesulus</i> .. .. ..	5	1	1	..	..	..	..	..	..	..	..	..	..	..
<i>Rattus norvegicus</i> .. .. ..	9	1	..	..	..	..	..	1	..	..	..	..	..	..
<i>R. rattus</i> .. .. ..	9	0	..	..	..	..	..	..	..	..	..	..	..	..
<i>R. culmorum</i> .. .. ..	16	0	..	..	..	..	..	..	..	..	..	..	..	..
<i>R. assimilis</i> .. .. ..	1	0	..	..	..	..	..	..	..	..	..	..	..	..
Wild rabbits .. .. ..	20	0	..	..	..	..	..	..	..	..	..	..	..	..
	82	3	2	..	..	..	..	1	..	..	..	..	..	..

\* These sera were examined at the Queensland Institute of Medical Research.

probably been due to either blood or urinary infections with various members of the *Proteus* group. The results of agglutination tests with *Proteus OXK* must always be interpreted with caution.

#### 4. BACTERIOLOGY.

(a) *Investigation of Food Poisoning Attributed to Ice Cream.*—Early in the year an outbreak of food poisoning occurred in various suburbs of Brisbane which was attributed to the consumption of ice cream of a particular brand. As a result, samples of ice cream, as well as the various ingredients were submitted for bacteriological investigation. Subsequently, swabbings were made from various containers and parts of the manufacturing plant. Exhaustive bacteriological examination failed to produce any pathogenic organisms in culture. The nature of the outbreak and the behaviour of the patients affected was entirely consistent with a staphylococcal toxin being the causative agent. Support for this was lent by the following incident. Among the samples of ice cream received was an ice cream block which had been examined bacteriologically then stored in the deep freeze at -25°C. When all tests showed negative results the ice cream was eaten by four members of the laboratory staff. One member became violently ill with vomiting, diarrhoea and prostration three hours afterwards and was admitted to hospital where he remained for 15 hours before recovering. The other three consumers of the ice cream were unaffected. It is of interest that the staphylococcal toxin should have produced such an acute illness in only one of four persons.

(b) *Bacteriological Examination of desiccated Coconut.*—As a result of outbreaks of Typhoid fever attributed to desiccated coconut in Southern States, various samples of this product were submitted for bacteriological examination from many sources. In all 112 samples of coconut were examined, as well as coconut-containing sweets and whole coconuts.

*S. typhosa* was not isolated, but from 14 of the samples of desiccated coconut, salmonellas were isolated and from one other *Shigella flexneri* was grown. All the samples from which salmonellas were recovered were of Papuan origin, whilst that infected with the shigella was from Ceylon. It is noteworthy that this latter sample was brought in by a private householder whose family had had an attack of "dysentery" so the sample may have been previously infected in the house.

Of the Salmonellas, five different types were represented, e.g., *S. senftenberg*, *S. daytona*, *S. thompson*, *S. bovis-morbificans* and *S. typhimurium*. For the final typing of the Salmonellas we are indebted to Miss Nancy Atkinson, of Adelaide.

(c) *Isolation of Salmonellas.*—During the year the following Salmonellas were isolated from faeces: *S. bovis-morbificans* (2), *S. derby* (2), *S. adelaide* (1), *S. norwich* (1) and *S. typhimurium* (9). This was the first isolation of *S. derby*, *S. adelaide* and *S. norwich* in this laboratory.

#### 5. TUBERCULOSIS LABORATORY.

In the current year 5,494 specimens have been examined and of these 3,031 were sputa, 1718 gastric lavages, 652 laryngeal swabs and 93 miscellaneous. All specimens have been cultured on four tubes of Lowenstein-Jensen medium which is prepared in one ounce McCartney bottles. The cultures are read weekly for a period of six weeks at which time they are discarded if there is no evidence of growth.

Smears for acid-fast bacilli are not examined from gastric lavage, but all other specimens are examined microscopically. Whenever possible all gastric lavage and miscellaneous specimens were injected into guinea-pigs as well as being cultured, but due to a shortage of animals this was not possible in all cases.

Whenever typical cultures were isolated, these were investigated by guinea-pig inoculation and four strains suspected of being bovine were inoculated into both guinea-pigs and rabbits. One bovine strain was isolated from the sputum of an abattoir worker. Six further suspicious cultures are being investigated at present.

Due to the difficulty in maintaining a sufficient supply of guinea-pigs for the laboratory, an investigation has been commenced to study the adaptability of white mice for routine diagnostic use. This work is still in progress.

A comparative study is being made of the efficiency of gastric lavage and laryngeal swabs in the diagnosis of tuberculosis. Already 652 laryngeal swabs and gastric lavage specimens have been cultured and it is hoped to analyse the results when a larger series is available.

Careful records are maintained of the laboratory work and monthly statistical summaries are prepared. By this means it is possible to check the technique.

A statistical analysis of the work carried out from January to December 1953 revealed the following:—

Total number of specimens examined .. ..	4,299
Total number of sputa examined .. ..	3,000 (70%)
Total number of gastric lavage specimens examined .. .. .. ..	1,213 (28%)
Total number of miscellaneous specimens examined .. .. .. ..	86 (2%)
Percentage of total specimens giving positive cultures .. .. .. ..	24.9%
Percentage of sputum specimens giving positive cultures .. .. .. ..	24.6%
Percentage of gastric specimens giving positive cultures .. .. .. ..	26.7%
Percentage of miscellaneous specimens giving positive cultures .. .. .. ..	5.8%
Percentage of positive slopes from specimens giving positive cultures (4 inoculated in each culture) .. .. .. ..	78%
Percentage of acid-fast saprophytes (total specimens) .. .. .. ..	41%
Percentage of acid-fast saprophytes (sputum)	39%
Percentage of acid-fast saprophytes (gastrics)	52%
Percentage of slopes showing contamination (total) .. .. .. ..	8.2%
Percentage of slopes showing contamination (sputum) .. .. .. ..	9.0%
Percentage of slopes showing contamination (gastrics) .. .. .. ..	5.5%
Percentage of slopes showing contamination (miscellaneous) .. .. .. ..	19.5%

These results are satisfactory in that the contamination rate is low, also the technique and media are good in that 35.7 per cent. more sputa were found to be positive by culture than by smear. (Most authorities state that 30 per cent. increment by culture can be expected if the techniques are satisfactory). The fact that 7.3 per cent. of positive sputa had positive smears but were negative on culture is somewhat disturbing. The most probable explanation is that many of these specimens were a long time in transit to the laboratory, also chemotherapy may well have been a factor. This matter is being investigated.

The guinea-pig culture correlation points in favour of guinea-pig inoculation as a diagnostic test but the numbers are small and a much larger series must be studied before any opinion can be expressed as to the relative efficiency of these two methods of diagnosis in our hands.

In a survey of sputa from certain employees in factories engaged in processing asbestos, asbestos bodies were found in eleven individuals.

#### 6. BIOCHEMISTRY.

Much of the increased work in this section is due to the institution of a battery of tests which are carried out on sera in which abnormalities of the proteins are suspected, mainly in patients suffering from some form of hepatic disease. These tests include total serum protein, alkaline phosphatase, serum bilirubin, thymol turbidity and flocculation, zinc sulphate turbidity and electrophoretic analysis of the serum protein by means of the filter paper technique. Up to the present the interpretation of the electrophoretic pattern has been qualitative and subjective, but a photo-electric scanner has now been installed and when preliminary work has been completed an objective and more quantitating assessment of the serum protein fractions will be available.

#### 7. CITY MORGUE.

During the year modifications to the refrigerated chamber were made in order to increase its effective capacity. Even so there are times when the space available is inadequate and with a steady upward trend in the number of autopsies performed each year, such occasions must inevitably occur with greater frequency. For this reason, together with its closeness to a sand and gravel depot producing almost continuous noise and dust, it would seem desirable to give some thought to the possibility of building a new morgue more adequate for the demands made upon it, more in keeping with modern designing and perhaps more readily accessible to the facilities of the laboratory.

#### 8. PUBLICATIONS.

\*Tonge, J. I. (with Inglis, J. A., and Derrieck, E. H.) (1953) : "Regional Non-bacterial Suppurative Lymphadenitis and its Relation to 'Cat-scratch Disease,'" Medical Journal of Australia, volume II, page 81.

\*Tonge, J. I., and Brown, H. E. (with Derrieck, E. H., and Berry, A. H.) (1953) : "Fevers of the Mackay District, Queensland," Medical Journal of Australia, volume II, page 121.

Smith, D. J. W., Brown, H. E., and Tonge, J. I. (with Sinnamon, C. N., MacDonald, V. M., Ross, C., and Doherty, R. L.) (1954) : "The Serological Classification of Eighty-nine Strains of Leptospirae from North Queensland, Including Five Serotypes New to Australia," Australian Annals of Medicine, volume III, page 98-105.

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\*Previously reported as being in the Press.

## GOVERNMENT CHEMICAL LABORATORY, 1953-54.

Government Analyst and Chief Inspector of Explosives:  
S. B. WATKINS, M.Sc., F.R.A.C.I.

Deputy Government Analyst and Inspector of Explosives:  
A. S. HURWOOD, B.Sc., A.R.I.C., A.R.A.C.I.

*Accommodation.*—A building to house ore grinding and other equipment and to contain a small laboratory for coal testing has been completed and awaits the installation of the machines and work benches and other laboratory facilities. This will be of additional benefit to the laboratory and will obviate daily excursions to the Executive Building where existing ore preparing machines have remained since the laboratory was transferred from that building to its present location.

The total number of submissions from all sources for the year was 21,894 and in the table below this figure is included with the corresponding ones for the previous nine years.

TABLE CXIII.

Year.	Total Submissions.
1943-44	14,105
1944-45	15,434 (Record year)
1945-46	11,875
1946-47	12,834
1947-48	13,629
1948-49	17,564 (Record year)
1949-50	18,840 (Record year)
1950-51	14,137
1951-52	15,675
1952-53	26,014 (Record year)
1953-54	21,894

Last year's record figure of 26,014 was accountable to the work involved in estimating the arsenical residues in over 11,000 samples of tobacco leaf. This year's figure, the second highest on record, cannot be ascribed to any one specific factor although it does include over 3,000 clinical thermometers which a local importer submitted for testing for which he paid.

In the following table, a five years' dissection is given covering the number of examinations for the four sections of the laboratory.

TABLE CXIV.

—	Section 1.	Section 2.	Section 3.	Section 4.
1949-50	6,290	1,395	3,376	7,149
1950-51	5,148	1,031	3,463	4,495
1951-52	5,590	1,207	4,069	4,809
1952-53	16,602	1,442	3,868	4,102
1953-54	7,762	1,647	4,295	8,190

The figures for the present year show a more even spread of the work among the various sections. In section 4 it was necessary to arrange overtime to meet the demand for service. A chemical service to be of value to those authorities it serves must be kept well up to date. There should be as little delay as possible in the issue of certificates when dealing with the quality of foods and drugs, standards of acceptance of other substances covered by the Health Act, the valuation of coal, the assay of ores and metals, the release of goods from bond or through customs, the payment of contracts for painting, the letting of tenders, the

search for poisons, biochemical determinations as guides to medical treatment, and investigations associated with industrial medicine and hygiene.

An analysis of the year's total according to origin is disclosed in the following table:—

TABLE CXV.

Authority.	Number of Submissions.	
<b>State Departments—</b>		
Health and Home Affairs .. ..	6,936	
Police .. ..	302	
Geological Survey .. ..	491	
Mines .. ..	114	
Coal Board .. ..	185	
Irrigation and Water Supply .. ..	643	
Portmaster (Explosives) .. ..	2,326	
Local Government .. ..	336	
Main Roads Commission .. ..	94	
State Stores Board .. ..	588	
Public Works .. ..	349	
Tile Testing Station .. ..	289	
Railways .. ..	19	
Others .. ..	1,135	
<b>Commonwealth Departments—</b>		
Trade and Customs .. ..	2,476	
Commerce and Agriculture .. ..	1,213	
Others .. ..	300	
Hospitals Boards .. ..	259	
Medical Profession .. ..	91	
Public .. ..	3,748	
<b>Total</b> .. ..	<b>21,894</b>	

*Equipment.*—During the past few years consideration has been given to the acquisition of some pieces of modern equipment to facilitate the output of work and to improve general efficiency of the various Sections. In this regard an Eel Flame Photometer for the determination of sodium and potassium materially reduces the time involved in the estimation of these two elements previously assessed by the time honoured Lawrence Smith technique. Investigations with a newly-acquired Polarograph indicates that this instrument will speed up many determinations whilst the installation of more electric furnaces and a standard bomb calorimeter has assisted the work on coals.

Additional chemical balances of modern construction have also proved their worth. Several new ovens including vacuum types contribute to general efficiency. Among other additions essential to the growing needs of the laboratory which might be mentioned are a Hortvet Cryoscope (for determination of the freezing point of milks), a Stormer Viscometer for paint analyses, a gyratory sieve holder for the fractionation of finely divided solids, a Rotameter and a Velometer for testing air and gas velocities, a modern Lovibond Tintometer, a standard barometer, an Abbe Refractometer, two up-to-date binocular microscopes, a potentiometric titration set, and an aromatic hydrocarbon detector. Careful consideration is always given to determining the general usefulness of such high-priced equipment prior to recommending purchase.

## SECTION 1.

*Foods, Drugs and Waters.*

A. S. HURWOOD, B.Sc., A.R.I.C., A.R.A.C.I.,  
Deputy Government Analyst, Officer-in-Charge.

The following table gives the number and source of the samples examined.

TABLE CXVI.

Department.	No. of Samples.
Health and Home Affairs .. .. ..	6,032
Irrigation and Water Supply .. ..	639
Other Government Departments .. ..	637
Local Government .. .. ..	260
Public .. .. ..	194
Total .. .. ..	7,762

## SUMMARY OF SAMPLES OF FOODS AND DRUGS EXAMINED FOR THE DEPARTMENT OF HEALTH AND HOME AFFAIRS

Nature of Sample.	No. of Samples.
Beverage or Cordial .. .. ..	210
Bread .. .. ..	171
Cereal .. .. ..	96
Condiment .. .. ..	8
Disinfectant .. .. ..	151
Drugs or Medicine .. .. ..	108
Fish .. .. ..	18
Flock and Fibre .. .. ..	33
Fruit or Fruit Juice .. .. ..	416
Jam or Jelly .. .. ..	58
Meat .. .. ..	137
Milk—Official .. .. ..	2,036
Milk—Unofficial .. .. ..	309
Milk Product .. .. ..	23
Paint .. .. ..	338
Spirituos Liquor .. .. ..	142
Tobacco .. .. ..	949
Toy .. .. ..	15
Vegetable .. .. ..	13
Miscellaneous .. .. ..	595
Total .. .. ..	5,826

The miscellaneous samples include confectionery, essence, toilet preparations, cotton wool, enamel mug, whalemeat and a large number of samples of mixed groceries from a suburban store submitted for examination as to taint from insect spray.

Details of legal samples taken by Inspectors in accordance with the provisions of "The Health Acts, 1937 to 1949."

TABLE CXVII.

Nature of Sample.	Number Examined.	Passed.	Failed.
Milk .. .. ..	2,036	1,532	504
Paint .. .. ..	151	85	66
Minced Meat .. .. ..	64	20	44
Sausage and Sausage Meat .. .. ..	42	19	23
Spirituos Liquor .. .. ..	45	2	43
Ice Cream .. .. ..	5	5	Nil
Brown Bread .. .. ..	5	2	3
Summer Drink .. .. ..	3	Nil	3
Miscellaneous .. .. ..	18	5	13
Total .. .. ..	2,369	1,670	699

The miscellaneous samples include cream, phenyl, tobacco, naphthalene—D.D.T. preparation and foodstuff contaminated with filth.

*High Standard of Foods and Drugs.*

As mentioned in previous annual reports it is largely the lines of doubtful purity that are submitted to the analyst for examination, and the normal good quality lines are seldom sampled. The vast majority of the foods and drugs marketed in Queensland are in sound clean condition and conform with the standard prescribed in the Food and Drug Regulations.

*Milk.*

The quality of the milk supply as judged by the samples submitted was somewhat below the high standard of last year.

TABLE CXVIII.  
DETAILS OF LEGAL SAMPLES OF MILK SUBMITTED FOR ANALYSIS.

District.	Total Number of samples.	Number of samples which passed the standard.	Number of watered samples.	Number of samples below the standard in total solids (12 per cent.) and/or solids not fat (8·5 per cent.) but not watered nor deficient in fat.	Number of samples below the standard in total solids (12 per cent.) and/or solids not fat (8·5 per cent.) but not watered nor deficient in fat.	Proportion of watered samples. (per cent.)	Average proportion of added water. (per cent.)
Greater Brisbane	768	604	59	73	32	7·7	13·3
Beaudesert	46	39	Nil	2	5	Nil	..
Caboolture	227	153	14	37	23	6·2	4·1
Cairns	61	26	11	10	14	18·0	5·0
Charleville	7	5	Nil	2	Nil	Nil	..
Cleveland	23	20	Nil	2	1	Nil	..
Cloncurry	9	2	Nil	7	Nil	Nil	..
Gympie	8	8	Nil	Nil	Nil	Nil	..
Hughenden	5	4	Nil	1	Nil	Nil	..
Ipswich	145	121	6	9	9	4·1	4·8
Kingaroy	8	7	1	Nil	Nil	12·5	17·0
Maryborough	46	42	3	Nil	1	6·5	7·7
Nambour	101	97	Nil	3	1	Nil	..
Rockhampton	197	147	24	15	11	12·2	6·3
Roma	11	7	1	3	Nil	9·1	9·0
South Coast	168	90	3	35	40	1·8	5·0
Toowoomba	163	140	5	13	5	3·1	12·6
Townsville	43	20	1	12	10	2·3	3·0
Total	2,036	1,532	128	224	152	6·3	9·4

(SUMMARY OF TABLE CXVIII).

	Percentage of total number of Samples.
Samples adulterated with water ..	6.3
Samples deficient in fat but not watered ..	11.0
Samples below the standard in total solids and/or solids not fat only ..	7.5
Samples which passed the standard ..	75.2
	100.0

TABLE CXIX.  
MILK SAMPLES TAKEN IN GREATER BRISBANE.

Year.	Number of Samples.	Proportion of Total Samples.	Proportion Adulterated with Water.
1946-47 ..	1,358	62.7	2.2
1947-48 ..	1,261	55.2	1.6
1948-49 ..	1,221	49.3	1.7
1949-50 ..	1,154	53.0	1.7
1950-51 ..	732	43.2	6.5
1951-52 ..	878	41.8	4.3
1952-53 ..	813	42.1	0.7
1953-54 ..	768	37.7	7.7

TABLE CXX.  
SHOWING THE AVERAGE FAT CONTENT OF THE LEGAL SAMPLES OF MILK IN WINTER AND SUMMER IN TOWN AND COUNTRY.

Number of Samples.	Greater Brisbane or Country.	Season.	Months.	Average Fat Content.
2,036 ..	Both .. .. ..	Overall .. .. ..	July-June .. .. ..	Per cent. 3.81
176 ..	Brisbane .. .. ..	Winter .. .. ..	July-September .. .. ..	3.65
695 ..	Country .. .. ..	ditto .. .. ..	ditto .. .. ..	3.82
871 ..	Both .. .. ..	ditto .. .. ..	ditto .. .. ..	3.79
374 ..	Brisbane .. .. ..	Summer .. .. ..	October-March .. .. ..	3.67
417 ..	Country .. .. ..	ditto .. .. ..	ditto .. .. ..	3.66
791 ..	Both .. .. ..	ditto .. .. ..	ditto .. .. ..	3.67
218 ..	Brisbane .. .. ..	Winter .. .. ..	April-June .. .. ..	4.10
156 ..	Country .. .. ..	ditto .. .. ..	ditto .. .. ..	4.30
374 ..	Both .. .. ..	ditto .. .. ..	ditto .. .. ..	4.18

NOTE :—“Country” in this table means outside the Greater Brisbane Area.

TABLE CXXI.  
SHOWING THE MILK POSITION COMPARED WITH PREVIOUS YEARS.

Year.	Number of Legal Samples.	Percentage showing Deficiency in Fat but not Watered.	Percentage Below the standard in Total Solids and/or Solids not Fat only.	Percentage of Watered Samples.	Added Water (Average amount per cent.)
1947-48 ..	2,283	1.8	7.4	2.5	10.0
1948-49 ..	2,476	9.4	4.0	4.3	10.0
1949-50 ..	2,179	9.6	3.5	3.1	9.0
1950-51 ..	1,695	9.7	2.7	8.7	8.5
1951-52 ..	2,100	13.7	9.6	8.0	9.5
1952-53 ..	1,934	7.8	3.5	2.8	10.2
1953-54 ..	2,036	11.0	7.5	6.3	9.4

The various brands of pasteurised milk, including the milk issued to schools under the free milk scheme were regularly examined.

Complaint samples from the public, concerning dirty milk bottles were received and suggestions for the better supervision in the bottle washing departments of the industry were made by departmental inspectors.

The following observations are made from a survey of the above tables:—

Of the official milk samples examined 37.7 per cent. came from the Greater Brisbane area and 62.3 per cent. from the rest of Queensland.

The proportion of milks adulterated with water was 7.7 per cent. in Greater Brisbane and 5.4 per cent. in the rest of Queensland. This high figure for adulteration in the milks obtained in the Greater Brisbane area was due to intensive sampling in suspected areas.

There was a greater number of milks deficient in fat and also more naturally poor milks than last year.

The average fat content of all the legal milks was 3.81 per cent. compared with 3.9 per cent. last year. This average figure for fat shows little variation from year to year.

There was little difference between Brisbane milk and country milk as regards fat content.

The country districts of Cairns and Rockhampton showed a high incidence of watered milks.

#### Bread.

One hundred and seventy-one (171) samples of bread were examined including samples taken from quality surveys in the country centres of Bundaberg, Cairns, Rockhampton, Ipswich, Innisfail, Mossman, and Ravenshoe. The quality of the white bread was remarkably good and few underbaked or poor quality loaves were received. With brown bread and wholemeal bread, deficiency in wholemeal content was a common fault.

A number of samples of mouldy bread was submitted for examination, usually with the complaint that the bread from a particular

baker showed a greater tendency to mould than normal bread but this was never confirmed by investigation. Properly baked bread as it leaves the oven is practically sterile and if properly handled at the bakehouse, properly delivered in the vans, and finally stored under clean conditions should not mould over its normal useful life of two or three days.

The risk of infection with air-borne mould spores is ever present from the time the bread leaves the oven, and the greatest risk of such infection is in the final storage of the bread in home or institution. This risk can be reduced to a minimum if the following points are carefully observed:—

Loaves of bread should never be stored singly or in bulk until properly cold. All old bread should be taken from the crock, tin or cupboard prior to the storage of a fresh delivery.

Bread containers should at times be wiped free of crumb and washed with a germicidal solution of chlorinated soda (0.5 per cent. available chlorine) used at the rate of one pint to three gallons of cold water and finally rinsed with clean water and thoroughly dried. The high humidities and temperatures of summer days in Queensland provide optimum conditions for mould growth.

If however, careful attention is paid to the several points outlined above the high incidence of mould in bread in Queensland during summer months, could be considerably reduced.

#### *Flour.*

Ninety-six samples in all were examined. The flours from the several mills in Brisbane were regularly examined with satisfactory results. The protein content of the white flours varied from 11.2 per cent. to 13.2 per cent. and the quality of the flour was consistently good. No evidence of chlorine bleaching has ever been obtained from Queensland milled flours. Quality certificates were issued on flour exported to Eastern ports and 19 inspections were made by officers of the Section at mill, wharf or railway siding.

#### *Meat.*

A record amount of work was done in connection with meat and 137 samples were examined.

Despite prosecutions for the offence and unfavourable press publicity many butchers persist in adding chemical preservative to minced meat and excess preservative to sausage meat.

Of 64 legal samples of minced meat examined 44 samples contained sulphur dioxide.

Of 42 legal samples of sausage or sausage meat examined 23 samples failed to conform with the prescribed standard through excess preservative, deficiency in meat or, in the case of one sample, excess starch. One minced meat yielded sulphur dioxide at the rate of 73 grains to the pound; the highest figure recorded in this laboratory and needless to say the butcher concerned was among those prosecuted for selling adulterated meat.

Frankfurts and savcloys were examined for composition with satisfactory results.

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A number of people were sick after eating sausages, adulterated with sulphur dioxide at the rate of 15 grains to the pound.

#### *Use of the word "Cocktail."*

Certain lines of canned fruit and soft drinks examined were described on the labels as Cocktails, a word that could with advantage be restricted to alcoholic preparations and prohibited in the labelling of any food containing less than two per cent. proof spirit.

#### *The food value of Canned Vegetables.*

Several enquiries were received from the public on this subject.

The food value of canned vegetables usually compares favourably with the food value of similar vegetables cooked by careful household methods and is often better than that of vegetables carelessly cooked in the home.

With the canned product the vegetables are freshly picked and cooked under ideal conditions whereas in domestic cooking the vegetables are often purchased after long storage in a shop, over-cooked and the cooking water discarded.

#### *Coumarin Questioned as a Food Flavour.*

Coumarin has long been used in essence form as a food flavour.

Recent work overseas has shown it to be a toxic substance and it has now been deleted from the list of permitted food flavours in the United States of America.

A check was made on the extent to which this substance is used as a food flavour in Queensland and a number of samples of essence and ice cream was examined for coumarin content with negative results.

#### *Bedding and Upholstery Filling Material.*

Of thirty-three samples of flock and fibre examined, 20 samples failed to attain the standard of cleanliness required under The Bedding and Upholstery Regulations of 1948.

#### *Domestic Dry-cleaning Fluids.*

Five brands of dry cleaning fluid as used in the home were examined. Two were composed of trichlorethylene, one was white spirit, another a mixture of 85 per cent. trichlorethylene and 15 per cent. white spirit and the remaining brand was a mixture of 95 per cent. white spirit and 5 per cent butyl acetate.

#### *Ascorbic Acid (Vitamin C) Tablets.*

Nine brands of Ascorbic Acid (50 mgm.) tablets were examined with satisfactory results. With the exception of one brand which contained slightly less than the prescribed minimum of ascorbic acid, all the brands complied with the standard of The British Pharmacopoeia. The size of the tablets varied considerably between brands from 2.0 to 6.2 grains the excipient being chiefly lactose and starch.

#### *Teething Powders.*

The several proprietary lines of "teething powders" were examined.

Two of the brands were composed of commercially pure lactose and were at least harmless although of doubtful value for the purposes claimed.

Two other brands contained in addition to lactose, 0·4 grains and 0·8 grains per powder, respectively, of mercurous chloride (calomel).

Legislation has now been introduced in Queensland to the effect that—"No person other than upon the written prescription of a medical practitioner, shall sell any teething powder, soothing powder, infants' powder, or similar preparation containing mercurous chloride for internal use by children under the age of five years.

#### *Aerated Drinks and Cordials.*

A large volume of work was done in this direction and 210 samples examined. Soft drink and cordial surveys were made in many of our country towns.

The quality of the drinks made in most of our country centres, compares favourably with the quality of those made in Brisbane. Judged by the nature of the samples submitted, all too many artificially coloured and flavoured preparations are consumed in Queensland and all too few genuine fruit drinks.

#### *Drugs and Medicines.*

One hundred and eight samples in all were examined. Survey lines, such as hydrogen peroxide were checked against prescribed standards. Complaint samples of medicine from the public were checked for accuracy in dispensing. New proprietary lines of medicine were examined for restricted drugs or poisons and a criticism made of the claims advanced for these preparations. The most serious complaint sample from the public was one said to have caused sickness when taken as directed. It was shown to be zinc sulphate and not sodium sulphate as prescribed.

TABLE CXXII.

SHOWING THE COMPOSITION RANGE OF SIX BRANDS OF MEAT TENDERISING POWDERS FROM THE LOCAL MARKET.

Moisture (per cent.) .. ..	0·7 to 4·5
Sodium Chloride (common salt) (per cent.) .. ..	60·5 to 87·7
Sodium Phosphate (per cent.) ..	Nil to 15·5
Vegetable substance (including a small proportion of the proteolytic enzyme papain) (per cent.)	8·3 to 37·1
pH of aqueous Extract .. ..	5·9 to 7·1

The preparations did not contain any harmful ingredient and all had some value, although a variable one, for the purpose claimed.

#### *Extravagant Chicken Claims.*

Extravagant claims have been made recently in newspaper advertisements concerning chicken flavoured food products including noodles, soup powders and sandwich spreads. A number of such samples was examined. They contained small proportions only of chicken flavouring substances insufficient to justify any claims concerning improved food value due to chicken content.

TABLE CXXIII.  
SHOWING THE COMPOSITION RANGE OF BEERS FROM QUEENSLAND AND FROM SOUTHERN STATES.

Queensland Beers. (14 samples) (8 brands).	Maximum.	Minimum.	Mean.
Extract (per cent.) ..	4·9	2·8	3·7
Reducing Sugar (per cent.)	1·08	0·50	0·73
Ash (per cent.) ..	0·14	0·09	0·11
Proof Spirit (per cent.) ..	8·0	5·8	7·2
Acidity (as lactic acid) (per cent.) .. ..	0·25	0·11	0·18
pH (de-aerated product)	4·4	3·7	..
Lead (parts per million) ..	0·35	0·00	0·13
Sulphur Dioxide (grains per gallon) (2 samples only) ..	0·8	0·4	0·6

Interstate Beers. (8 samples) (7 brands).	Maximum.	Minimum.	Mean.
Extract (per cent.) ..	4·7	3·3	4·0
Reducing Sugar (per cent.)	1·78	0·64	1·05
Ash (per cent.) ..	0·13	0·10	0·12
Proof Spirit (per cent.) ..	8·3	6·3	7·4
Acidity (as lactic acid) (per cent.) .. ..	0·19	0·12	0·16
pH (de-aerated product)	4·35	4·20	..
Lead (parts per million) ..	0·07	0·00	0·02
Sulphur Dioxide (grains per gallon) (one sample only)	0·4	..	..

The lead content of some of the local beers was slightly more than the maximum proportion permitted. In an endeavour to locate the source of the trouble 50 samples of beer at various stages of manufacture at the brewery, together with three samples of hops and seven samples of heading compounds were examined for lead.

#### *Tobacco.*

Nine hundred and forty-nine samples of tobacco leaf and prepared tobacco were examined. Samples of the leaf was less intensive than in the previous survey and resulted in the submission of 788 samples for examination as to arsenic content.

The position as regards contaminated leaf showed a marked improvement on last year although there were still growers spraying the leaf excessively with lead arsenate.

One hundred samples of cigarettes and pipe tobacco were examined for quality and arsenic content and 61 samples of contraband cigarettes and other lines of prepared tobacco from the Queen's Warehouse were examined as to suitability for sale.

#### *Paint and Paint Scrapings.*

In this section of the work 338 samples were examined. Soluble lead by the prescribed method was determined in most of the samples. Under Queensland legislation paint containing more than 5 per cent. "soluble lead" is not permitted to be put on any fence or on the outside of any building to which portion, children under the age of fourteen years have easy access.

The composition of the paint as declared on the label was checked on a number of samples.

#### *New Paint Regulations.*

In the Paint Regulations of 1954 standards are prescribed for lead and zinc pastes and paints and for iron oxide paint.

Paints with pigments containing more than 50 per cent. barium sulphate must be labelled "Barium Sulphate Mixed Paint".

Barium sulphate, calcium carbonate, clay, ferric oxide, lead chromate, and siliceous material when present in a paint must be described as such in the composition of the paint as declared on the label.

Soluble lead must be declared in a prescribed form.

In the prescribed method for the determination of "soluble lead" one-half gram of the pigment is added 500 grams of a 0·25 per cent. aqueous solution of hydrogen chloride, and stirred continuously for one hour at a temperature of 25°C and at a rate just sufficient to keep the whole of the pigment in continuous suspension. The soluble lead (as PbO) is taken as a percentage of the dry pigment.

#### *Spray Residues on Fruits and Vegetables.*

Judged by the few complaint samples received, most of the vegetables marketed must have been in clean condition and reasonably free of spray residues.

Of the 13 samples submitted for examination, three samples only were condemned because of spray or dust residues:—

Tomatoes containing lead arsenate.

Potatoes heavily plastered with inert dusting powder.

Brussell Sprouts containing cabbage aphids and heavily contaminated with D.D.T. residues.

The position concerning fruit was open to improvement and samples of apples, pears, grapes, bananas, and oranges submitted for examination contained excessive proportions of spray residues. In all 416 samples were examined including 342 samples of apples.

As a spray residue, arsenate of lead adheres firmly to the fruit and is not removed to any significant extent by simply washing in water. Peeling is the best method for the removal of spray residues although vigorous wiping of the fruit with a wet cloth followed by polishing is effective in reducing spray residues to a safe level. That part of the fruit close to the stalk and difficult to clean by wiping, should be discarded.

Toffee apple manufacturers should polish their apples prior to treatment with toffee syrup.

Most insecticides are toxic to humans and insects alike and great care must be exercised in their use on food crops.

Under existing legislation "No person shall send any fruit or any vegetable to market for sale unless and until it is clean and free from any spray residue or any other foreign substance which is deleterious, objectionable or injurious to health."

Farmers should be conversant with this Regulation because in the interests of Public Health it must be rigidly enforced.

#### *Miscellaneous.*

Four samples were submitted from coastal towns in the search for ambergris and one specimen from Double Island weighing 19 pounds was genuine and of scientific interest as one of the largest, if not the largest find of ambergris on the Queensland Coast.

A sample of meat was again received from the public with the complaint that it glowed in the dark. This was due to the presence of non-pathogenic luminous micro-organisms, a bacterial infection due to unclean storage conditions.

Ice blocks were examined for lead with negative results.

A jam survey contributed 58 samples for examination. Most of the brands were of fair average quality and conformed with the proposed standard for jam which requires a minimum fruit content of 40 per cent.

As regards filth in foodstuff most of the complaint samples were associated with milk and bread.

A large number of detergent preparations were examined and accepted as approved detergents under "The Cafe Regulations of 1952."

Many samples of insecticides were examined as to whether they came within the scope of the Poisons Regulations of 1947 and whether they were labelled in accordance with "The Health (Insecticides) Regulations, 1953."

Black headed "greasy back" prawns, with heads contaminated with mud were condemned as unfit for human consumption.

Spirituous liquors to the total number of 142 samples were examined.

Of 45 legal samples examined 43 samples were adulterated with water. The highest adulteration was 28 per cent. excess water in a sample of rum, equivalent to slightly more than seven ounces excess water to the 26 ounce bottle.

Samples of highly coloured popcorn containing excessive proportions of coal tar dye were examined.

A large volume of work was again done for the Brisbane and South Coast Hospitals Board including 84 samples of soap and a number of samples of bread, tablets, and tinctures.

From the Department of Health, Port Moresby, 11 samples of canned foodstuff were submitted for examination and report.

For miscellaneous Government Departments 169 samples in all were examined. These included breakfast foods for the Army, tender samples of soap, cordial, tea, and coffee for the Repatriation Department, human milk for Child Welfare Centres, drinking straws for the Department of Public Instruction, olive oil, tobacco, and biscuits for the Prices Commissioner, and various samples for the P.M.G. Department and for the Department of Native Affairs.

Eighteen samples were submitted direct from the public.

#### *Waters.*

The number of samples of water (1,749) examined in the Section was the highest on record and the table indicates the Government Departments seeking this service and the figures for these and the public.

For comparison the previous year's figures are listed:—

Department.	Samples 1953-54.	Samples 1952-53.
Health .. .. .. ..	206	209
Irrigation and Water Supply .. ..	639	679
Local Government .. .. ..	260	306
Harbours and Marine .. .. ..	316	..
Miscellaneous Government Departments, including the Commonwealth Public .. .. .. ..	152	*258
	176	173
Totals .. .. .. ..	1,749	1,625

\* Includes Harbours and Marine.

The significant increase in the work for the Department of Harbours and Marine was due to an increased number of samples of Brisbane River water taken from several stations along the river for the purpose of estimating the chlorides and silt at various depths and tide levels. For the Department of Health the work involved evaluation of town and rural waters as regards potability and general suitability for human consumption. Samples from the Irrigation and Water Supply Department were collected throughout the State and were submitted to ascertain their quality regarding human consumption, stock watering, and irrigation. The Department of Local Government is interested in the analyses of waters in connection with projected town water schemes and existing supplies.

In the case of the public, the samples were from individuals in rural areas who desired information as to the quality of waters on their holdings.

## SECTION 2.

### TOXICOLOGY, BIO-CHEMISTRY AND INDUSTRIAL HYGIENE.

I. L. B. HENDERSON, B.Sc., Officer-in-Charge.

The total number of specimens submitted for examination by this Section was 1,647.

#### POLICE DEPARTMENT.

Specimens submitted by this department during the year numbered 293, of which 189 were in connection with 65 post mortem examinations.

Poisons found included barbiturate (22), chloral (4), strychnine (3), nicotine (1), paraldehyde (1), parathion (1), bromide (1), thioeyanate (1), arsenic (1), cyanide (1), fluoride (1), hydrochloric acid (1).

The remaining 27 post mortem examinations did not disclose any poison. Many of the latter are routine examinations to exclude the possibility of poison where the Government Pathologist's preliminary examination does not indicate the cause of death.

As may be seen from the table, over-dosage of barbiturate drugs is now the popular method of committing suicide.

Animal poisonings involving 31 examinations were also investigated.

Other specimens examined for this department included blood, urine, anaesthetics, baits, foodstuffs, waters, clothing, paint scrapings, &c.

#### BIO-CHEMISTRY.

Work of this nature is performed for the Laboratory of Micro-Biology and Pathology, the Government Medical Officer, the Queensland Institute of Medical Research, the Director of Industrial Medicine, Hospitals, and Medical Practitioners.

The nature, significance and number of specimens submitted are shown in the following table:—

Nature of Specimen and Significance.	Number of Specimens.
Blood and Urine for alcohol, ether or other drugs .. .. .. ..	468
Urine for lead .. .. .. ..	223
Urine for mercury .. .. .. ..	25
Urine for 17 keto-steroids .. .. .. ..	11
Bone for lead .. .. .. ..	121
Hair, nail and urine for arsenic .. .. .. ..	60
Miscellaneous .. .. .. ..	125
Total .. .. .. ..	1,033

The alcohol determinations in blood and urine were for the Government Medical Officer in connection with drunken driving charges and for the Government Pathologist in post mortem examinations.

Since February this year analysis of urine for 17 keto-steroids has been undertaken. The number of samples being received is larger than expected and this work may have to be discontinued due to the length of time involved in the determination and lack of staff in the Section.

The analyses of human bone for lead content represent a further series for the Queensland Institute of Medical Research in the investigation as to the cause of the abnormal incidence of chronic nephritis in Queensland.

#### INDUSTRIAL HYGIENE.

Dust and ventilation surveys were carried out at nine coal mines in Queensland.

Ventilation tests were performed at a city building, three Fire Brigade Watchrooms and the X-Ray Room, Goodna Mental Hospital.

Dust surveys were conducted in two local fibro-cement factories, a foundry, a quarry and a mineral grinding plant.

Investigation of a peculiar odour in a city retail store which caused streaming eyes showed the presence of formalin vapour in the air. This was being evolved from fresh sheets of bonded plywood being used for alterations in the store. Fresh bondwood evolves a considerable quantity of formalin and care should be taken when using it in confined spaces.

## SECTION 3.

## MINING, MINERALOGY, METALLURGY AND EXPLOSIVES.

V. R. CUNDITH, B.Sc., A.R.A.C.I., A.M.Aus.  
I.M.M., Officer-in-Charge.

The table shows the sources of work done by this Section and the number of samples from each, to account for the total of 4,295:—

Department.	Number of Samples.
Geological Survey and Mines Department	587
Coal Board .. .. ..	185
Portmaster (explosives) .. .. ..	2,326
Other Departments .. .. ..	*844
Public (chiefly Tanker examinations) ..	353
	4,295

\* Including 289 tiles.

## MINES DEPARTMENT AND GEOLOGICAL SURVEY.

The greater proportion of the work was in assaying ores of gold, silver-lead, copper, tin, manganese, tungsten, and other metals.

Some of the Mn ores assayed 80 per cent.  $MnO_2$  by available oxygen.

Clays were tested as to suitability for brick manufacture.

Deposits of iron ores at Iron Range (Cape York Peninsula) and Mount Philp in the Cloncurry District were surveyed and 112 samples were received for analysis; mainly for silica and iron, and some for phosphorus, sulphur, titanium and manganese.

The receipt of a number of samples for the determination of uranium content reflects increasing interest in the search for likely prospects. The highest proportion of  $U_3O_8$  found in the samples submitted was 1.2 per cent.

A sample received for determination of vermiculite content yielded 11 per cent. vermiculite after being subjected to expansion treatment at  $1000^{\circ}C$ .

A metal submitted as a mineral from the Mount Coot-tha area consisted of brazing alloy (copper phosphide). It carried a patina, and no doubt was a relic of the occupation of the area by American forces during the war.

Complaints arising with the presence of sulphured hydrogen in working places were investigated at the coal mines and in all cases the concentrations were below two parts per million and thus well below the accepted permissible concentration of 20 parts per million for prolonged exposure.

Since the use of diesel engines underground visits have been made to collieries for the checking of exhaust gas compositions to determine contamination (if any) of the ventilation air flow. The position was satisfactory although in some instances the scrubber solutions needed more regular attention.

Mine air samples were examined to determine incipient heating in collieries and analyses of bore gas taken in connection with the search for oil were also completed.

## COAL.

Three hundred and one samples received from the Government Geologist and Coal Board were examined for calorific value, proximate analyses, fusion point of ash and washability tests.

A particularly lengthy job involved washability tests on three ton samples of coal from Box Flat Colliery, Ipswich coal field.

Sink and float tests were carried out at gravities from 1.35 to 1.85 by 0.5 rises on various sizings, with further work on middlings obtained. The work entailed 240 ash determinations with 10 proximate analyses and calorific values on each sample.

The ash content of the fractions ranged from 4.4 to 75.6 per cent. From these results the economics of recoveries and quality can be related to the method which might be employed to beneficiate the run of mine coal.

## OTHER DEPARTMENTS.

The work involved consultation as well as examination of a wide range of samples, such as bore deposits, corrosion products, roofing (289) and floor tiles, building materials, adhesive, rubber, explosimeters, soils, casket discs, aviation oxygen, water softeners, and the testing of cargo spaces for the presence of toxic gases and dust.

In respect of corrugated galvanised iron, aluminium fittings, and ridge capping, some samples received had been seriously affected by "sweating" during storage. The corroded areas showed the white corrosion product typical for each metal and failure in usage would be fairly rapid, not because of the quality of the zinc coating or aluminium alloy but because of the damage already sustained.

The life of sheeting is the life of the base metal at the laps and the use of "white rusted" metal for dwelling roofing should be condemned.

Close liaison established with firms engaged in the "phosphating" of steel for the Royal Navy has led to solution of problems relating to the process.

Degreasing, pickling and phosphating techniques were examined, solutions analysed and thickness of coating determined.

The aviation oxygen is tested to determine agreement with specification.

A number of clays were examined; an opportunity which permitted follow through experimental work subsequent to the milling of the clay, pressing, drying and firing of the bricks was of material assistance in improving the quality of the bricks.

Sizing tests on four samples of bricklayer's loam showed each sample to be excessively fatty, containing 22-32 per cent. -200 mesh material. Water absorption tests were carried out on the bricks, but lack of strength with mortar made from the sands indicated the effect of excessive silt and organic matter.

Of the soil samples submitted for report as to possibility of corrosive properties to cast iron and cement asbestos piping, one sample showed 0.62 per cent. of soluble solids inclusive of 0.26 organic matter. High chloride and organic matter content and consequent low

electrical resistance would necessitate protective waterproof coating and sand bedding to obtain good drainage in soils of this type.

A sample of chemical extinguisher was found to be essentially sodium bicarbonate with some metallic soap present to retain the powder in dry free running form.

In a hand extinguisher, in which inert gas such as CO<sub>2</sub>, or nitrogen is used as the propelling agent, the pressure of the gas is sufficient to blow the dry chemical a distance of over 25 ft. A respirator to prevent inhalation of dust or a self-contained apparatus would be needed when using the extinguisher in cramped, poorly ventilated places.

It is practically impossible to prevent compaction with these powders, hence, the container should be jolted and regularly reversed momentarily to ensure a free running powder.

In respect of extinguishers using solutions, the gas pressure is considerable while in use and if containers are not pressure checked at least annually a serious explosion may result through the use of a corroded or plugged outfit. In most cases the container receives no check other than replacement of solutions.

The presence of sulphuretted hydrogen and sulphate reducing bacteria in some samples of water indicated an additional corrosion factor to those already incidental to ports with estuarine conditions and mangrove flats.

A well sinker was asphyxiated at 3.30 p.m., 25th November, 1953, at Batavia Downs (130 miles north of Coen, North Queensland) when lowered into a shaft (52 ft. deep) containing an atmosphere of 12.3 per cent. carbon dioxide, 87.7 per cent. nitrogen (black damp).

The circumstances attending this unfortunate occurrence were rather unusual in that the worker had been working all the morning at the bottom of the dry shaft (52 ft. deep) and had made no comment on conditions below when brought up at lunch time 1.0 p.m. on 25th November, 1953.

Apparently a crack was exposed while working the bottom walls and floor just prior to leaving the shaft for dinner. Black damp was released from the break and subsequently the shaft was filled to a height of 21 ft. by displacement of air.

Examination of the shaft by the Sergeant of Police a fortnight later disclosed the following conditions:—

Date.	Time.	Level of black damp in shaft.
6-12-53 .. ..	8.30 p.m.	15 ft. from bottom
7-12-53 .. ..	1.30 p.m.	3 ft. from bottom
7-12-53 .. ..	2.30 p.m.	6 ft. from bottom
7-12-53 .. ..	3.15 p.m.	21 ft. from bottom
7-12-53 .. ..	3.40 p.m.	21 ft. level maintained

The variations seem to follow a cycle which was initiated in the shaft on the day when the fatality occurred; and may indicate the effect of the vagaries of ventilation and barometric pressure.

However, it does emphasise the absolute necessity for the careful testing of air conditions prior to any entry or continued occupation of wells, shafts or other badly ventilated workings.

#### INFLAMMABLE LIQUIDS AND GAS.

A great proportion of the work for the public is represented by examination of tankers, road wagons, fuel oil tanks, and containers to determine the presence of toxic or dangerous proportions of inflammable vapour prior to entry for cleaning and repairs.

One unusual examination involved the testing for methane, in a coal bunker. Rivetting and cutting work was required on the bunker floor. The hazard of dust ignition proved to be the more likely with the coal present, but with the coal well wetted the job was finished successfully.

#### EXPLOSIVES.

During the year 2,326 samples, mostly from imported stocks, were examined for the Postmaster, Officer-in-Charge of the Government Magazines to ascertain their suitability for storage, transport, and use. All imported explosives were found to be in a satisfactory condition.

The following table details the type, origin and quantity of industrial explosives imported into the State during the year ended 30th June, 1954.

TABLE CXXIV.

LIST OF IMPORTS INTO QUEENSLAND OF HIGH EXPLOSIVES, ETC., DURING THE YEAR ENDED 30TH JUNE, 1954.

Type.	Australian.	Overseas.
60% Gelignite S.N.	.. . 679	Cases. ..
A.N. Gelignite " 60 "	.. . 43,496	..
Geophex	.. . 3,134	..
Plastergel	.. . 2,973	..
Polar Quarigel	.. . 3,549	..
Ajax and Polar Ajax	.. . 17,876	..
Moreol	.. . 401	..
Semigel	.. . 5,124	..
Quarry Monobel	.. . 2,209	..
Monograin	.. . 4,997	..
Blasting Powder	.. . 356	..
	84,794	..
No. 6 Detonators	.. . 1,950,000	..
Electric Detonators No. 6 x 54"	.. . 90,000	..
Electric Detonators No. 6 x 72"	.. . 960,000	..
Electric Detonators No. 6 x 96"	.. . 30,000	..
Electric Detonators No. 6 x 144"	.. . 90,000	..
Electric Detonators No. 8 x 72"	.. . 1,750	..
Submarine	.. . 1,000	..
Electric Detonators No. 8 x 720"	.. . 60,000	..
Submarine	.. . 110,000	..
Gasless Dolay Detonators No. 6 x 120"	.. . 148,800	..
Gasless Delay Detonators No. 6 x 144"	.. . 3,996,000	Feet.
Short Delay Detonators No. 6 x 84"	.. . 300,000	Feet.

Consequent on inspection of licensed explosive magazines Mr. A. D. Murray, Inspector of Explosives, destroyed the following explosives:—

25 pounds of A.N. Gelignite.  
80 pounds of S.N. Gelignite.  
4 pounds of gunpowder.

all of which were found to be in a deteriorated condition and unfit for use.

Fees were collected for the following licenses issued for the storage of explosives:—

Bulk Magazines .. .. ..	14
Retail Magazines .. .. ..	207
Fireworks Magazines .. .. ..	14

In the case of magazines maintained by Government Departments it is customary to waive fees for the issue of licenses. Of these the Main Roads Department controls 197, the Forestry Department, 36 and the Water and Irrigation Department one.

Since the appointment of a full-time Inspector of Explosives it has been possible to give more detailed attention to inspections of licensed magazines. During the year the magazines in the area from Townsville north were included in the Inspector's itinerary and in many cases on-the-spot directions were given to licensees to accord with the requirements of the Act and Regulations in one or more regards. There appears a general laxity on the part of licensees when keeping explosives mainly it would appear from ignorance of their obligations under the law even though the conditions appertaining to the maintenance of explosive magazines are printed on the reverse of the licenses. The Inspector has been able to rectify the position from personal contact and in most cases licensees have been ready to co-operate in the directions indicated. In addition to the Far North, magazines were inspected in and about Brisbane, Ipswich, Eumundi, Caboolture, and Stanthorpe. In the latter centre the French Rockets imported for hail dispersion by a special Committee set up in the district were inspected.

During the Royal National Show an Inspector of Explosives was present at all the fireworks displays.

Attention was also given to the storage, display, and sale of fireworks in and about Brisbane, a great improvement effected in the interest of public safety.

No accidents were reported with home-made fireworks, the manufacture of which is illegal.

#### SECTION 4.

FEDERAL DEPARTMENTS, STATE STORES, MAIN ROADS, PUBLIC WORKS &c.

J. ADAMSON, A.R.A.C.I., Senior Analyst,  
Officer-in-Charge.

There was an increase in the total number of samples examined by this Section when compared with the previous year's figures.

This increase was attributable chiefly to a large batch of faulty clinical thermometers which was tested for a local importer.

With the exception of the Department of Public Works and the Main Roads Commission all other departments from which this Section received work increased their demands.

The following table details the samples examined by this Section:—

Customs .. .. ..	2,471
Commerce and Agriculture .. ..	1,212
Public Works Department .. ..	318
State Stores Board .. ..	564
Main Roads Commission .. ..	83
Explosive (Fireworks) .. ..	218
Railways .. .. ..	18
Miscellaneous Government Departments ..	118
Public .. .. ..	3,188
	8,190

The Federal departments of Customs and Commerce and Agriculture provided the bulk of the work for this Section. This work covered a very wide field and consisted chiefly of analyses for tariff classification for the Customs Department and the maintenance of export standards for the Department of Commerce and Agriculture.

The advice of this Section was frequently sought by officers of both these departments. Large numbers of paints were submitted by both the Public Works Department and the State Housing Commission. The general standard of the paints was good, and there was a commendable lack of lead pigments. This Section working in conjunction with the foreman painter of the Public Works Department has caused a marked improvement in the quality of paints used on Government contracts and has eliminated many inferior paints previously supplied.

The State Stores Board submitted a wide variety of work to this Section—textiles, inks, detergents, insecticides, disinfectants, paper, &c. The samples were submitted by the Board with a view to ascertaining the most suitable and most economical article for service requirements. The Officers of the Board also have frequently sought the advice of the officers of this Section.

Samples of bitumen, tar, bitumen emulsions, and creosote were submitted by the Main Roads Commission for testing purposes.

The examinations of imported fireworks was again carried out, and one batch of fireworks containing an arsenical compound was prevented from entering the State.

## DIVISION OF NURSING.

Adviser in Nursing: D. BARDSLEY, A.T.N.A., F.C.N.A.

### INTRODUCTION.

The establishment of a Division of Nursing within the Department of Health and Home Affairs was published in the *Government Gazette* of 14th February, 1953, with the announcement of the secondment of Miss Doris Bardsley, A.T.N.A., F.C.N.A., Superintendent of the Maternal and Child Welfare Service, to the position of Adviser in Nursing, for a period of 12 months in the first instance.

Special leave was granted Miss Bardsley to attend as the official delegate of the Australian Nursing Federation, the meetings of the Board of Directors and Grand Council, and the tenth Quadrennial Congress of the International Council of Nurses held in Sao Paulo, and Petropolis, Brazil, 6th to 18th July, 1953.

This was followed by a visit of one week to a large university hospital in New York City, and one week in London, studying the training of nurses in the United States and England, including group and affiliated hospital training schools of nursing. Discussions also included the training and registration of nurses, and Queensland problems in this regard with the General Nursing Council for England and Wales (nurse registration authority). The Nursing Division of the Ministry of Health was visited, and several experiments in nurse training which are now being carried out under the aegis of the Ministry were examined. In addition the Adviser had valuable discussions with senior nurses from Commonwealth and other countries at the International Congress.

This work supplemented experience and information gained by her in 1950, when, during a visit abroad she undertook a Study Tour which included work at the Division of Nursing, Ministry of Health, London, visits of observation to general and maternity hospitals, chest hospitals, geriatric units, and child welfare centres, and also attendance at the Paediatric Congress held in Zurich, Switzerland, in that year.

### VISITS TO PUBLIC HOSPITALS.

In pursuance of the responsibilities outlined for her, the Adviser in Nursing has commenced a programme of visits of inspection to Queensland public hospitals.

On each first visit to a hospital, it has been found necessary, in order to appreciate fully any problems which may arise, to inspect thoroughly every ward and department of the hospital itself, together with the training school accommodation and equipment, living quarters for matrons and nurses, library and recreation accommodation and equipment for nurses, both indoor and outdoor, and staff and training school records. It will be appreciated that this procedure involves a considerable amount of time and the taking of detailed notes on the spot. However, much valuable information is being accumulated as a result.

During the period covered by this report the following hospitals have been visited:—

*Base Hospitals*.—Brisbane, Ipswich, Toowoomba, Warwick, Maryborough, Rockhampton, Townsville, and Charleville.

*District Hospitals*.—Chinchilla, Dalby, Miles, Roma, Warwick, Stanthorpe, Bundaberg, Gayndah, Gympie, Childers, Monto, and Kingaroy.

*Others*.—South Brisbane Auxiliary, Rosemount, Mount Lofty, Jubilee, Mitchell, Lady Musgrave Maryborough, Lady Chelmsford, Bundaberg, Gin Gin, Mount Perry, Biggenden, Mundubbera, Eidsvold, Nanango, Nanango Maternity, Wondai, Murgon Maternity, Cherbouрг, and Chermside Sanatorium.

Visits to eight Northern hospitals, including the base hospitals at Mackay and Cairns, are already arranged for early July, 1954.

During these visits to hospitals opportunity has been taken to discuss nursing matters and problems not only with the matrons and sister tutors, but also with the medical superintendents, managers or secretaries, and other interested officers.

In one town, the president of the local branch of Rotary requested that a talk on nursing be given to the senior classes (girls and boys) in the luncheon break, and this was arranged. At several hospitals visited matrons have requested talks to nursing staffs and friends on nursing conditions abroad and these have been given. Where possible senior student nurses at hospitals have been met. Secretaries of

hospitals board advertise the time of the visit in the local press, and over the radio, and any girls interested in nursing, and their parents, are invited to interview the Adviser in Nursing during her visit to the town. Sufficient response has been received to make this a useful form of publicity for the hospitals.

#### MATRONS' CONFERENCES.

During the period covered by this Report the Adviser in Nursing has attended in her official capacity two Conferences of the Matrons' Association of Queensland. At the Conference in May 1954, she conducted two sessions, one by request, on the organisation of the Maternal and Child Welfare Service in Queensland and the other, suggested by herself, entitled "Can I Help You". It is found on visiting hospitals that a number of matrons have developed procedures or routines designed to add to the efficiency of hospital working or the teaching of nurses and the Adviser was of the opinion that these should be exchanged with other

matrons. The Session which elaborated this idea proved very popular and the matrons have asked that it be included in each year's Conference programme.

The President of the Matrons' Association during the Conference expressed the appreciation of the matrons that a Departmental nursing officer has been made available to whom they can appeal for advice and guidance in their many problems.

#### GENERAL.

Requests for advice on nursing matters have been received from a large number of people, in some cases by telephone, and others in a personal interview. Matrons of hospitals, trained nurses requiring information or guidance re post-graduate nursing courses or positions in Queensland, officers from other Government Departments employing nurses have sought help or information and girls interested in nursing or their parents have requested information or advice.

## DIVISION OF SOCIAL SERVICES.

Welfare Officer: Mrs. V. WILLS.

Each year, the scope of activities of the Division of Social Services is extended. For example, its assistance has been sought by doctors who have found that patients who should enter hospital are unable to do so through domestic trouble or family responsibilities, and also in respect of patients who require building up before hospitalization but have insufficient means to do this. Another activity which has been added is assistance in cases with which the Royal Society for the Prevention of Cruelty is unable to deal.

There are still nine temporary housing areas, in which hundreds of families live, and where there is constant need for vigilance. It is encouraging to note that the standard of hygiene in these areas has so improved that in recent outbreaks of gastro-enteritis the number of cases has decreased. However, there are still some families who need to be constantly checked. During these inspections anyone found to need medical attention is urged to consult a doctor, and where necessary assistance is given in obtaining it.

Complaints to the State Housing Commission, regarding unhygienic conditions at State rental homes, are investigated and follow-up visits paid until these homes are brought up to the required standard of hygiene. Other routine hygiene inspections have been carried out.

Numerous complaints regarding neglected children are investigated. In one case, both parents were working, and a girl of eight years of age was left in charge of five younger children, and in another a 12-year-old boy was left to care for a five months-old baby.

Arrangements were made for the admission to Eventide of many aged people reported to the Department as living under poor conditions and having no one to care for them.

As in previous years, assistance has been given to unmarried mothers, deserted wives and families, such as providing layettes, and finding accommodation and employment.

Appointments have been made for persons needing psychiatric treatment; patients on leave from hospital have been visited; and patients have been conveyed to hospital for special treatment. Assistance has also been given regarding Social Service pensions.

Domestic help has been obtained for families while the parents were ill, and expectant mothers have been helped in attendances at antenatal clinics, and in respect of medical examination of their children. Admission to maternal and child welfare homes has been arranged for children during their mothers' confinement.

Liaison is maintained with Her Majesty's Prison, and every effort has been made to rehabilitate female prisoners on discharge. They have also been assisted financially, and in regard to accommodation until employment has been obtained.

The sick and aged have been visited in homes and hospitals, and private business of an urgent nature has been attended to at their request. Many families have been helped in obtaining accommodation, and the continuous co-operation of the Queensland Housing Commission in this connection is greatly appreciated.

Assistance has been given in the recruitment of trainee nurses for the Mental Hygiene Service.

## LEGISLATION.

On 28th April, 1954, "The Trade Descriptions (Textile Products) Act of 1954", was assented to. This Act will come into operation on a date to be proclaimed, and repeals "The Trade Descriptions (Textile Products, Acts, 1944 to 1947)." (The Proclamation was issued on 15th July, 1949, giving the 1st August, 1954, as the date upon which such Act would come into operation, and Regulations under the Act operating from the same date also appeared in the Gazette of 16th July, 1954).

"The Health (Insecticides) Regulations, 1946", were repealed and replaced by "The Health (Insecticides) Regulations, 1953", which were gazetted on 6th August, 1953. These Regulations give added protection to the householder by insisting that all insecticides be appropriately labelled.

To meet advances in science with new drugs and medicines coming on the market three separate amendments of the "Poisons Regulations of 1947", were gazetted, i.e. on 24th September, 1953, 9th July, 1953, and 18th February, 1954. In addition to adding certain preparations to the Schedules of Poisons, Restricted Drugs, and Dangerous Drugs, the amendment of 9th July, 1953, authorised dentists to use antibiotic substances (for local application only) in the treatment of their patients, and provided that no wholesale seller of poisons shall sell any restricted drug to any person other than on the written order of a medical practitioner, veterinary surgeon, pharmaceutical chemist, or a dentist as provided for in the Regulations. The amendment of 18th February, 1954, provided inter alia, that no person shall sell or use any electrical or other heating device for the vapourisation of any poison unless such electrical or other heating device had been approved by the Director-General for such purpose. Included in the amendments were powers to deal effectively with certain organic phosphates used as pesticides—these are highly toxic.

As forecast last year, "The Paint Regulations of 1953", were gazetted on 6th August, 1953.

The danger of mercurous chloride being indiscriminately used in teething powders for children resulted in an amendment of "The Food and Drug Regulations of 1939", on 17th June, 1954. Its sale is now prohibited for internal use by children under the age of five years, other than upon the written prescription of a medical practitioner.

The "Cafe Regulations of 1952", were repealed, and "The Cafe Regulations of 1953", were gazetted on 22nd October, 1953. The powers were extended to all Local Authorities in the State. An amendment to these Regulations on 17th June, 1954, gave powers to license to certain Local Authorities in the State.

On 13th March, 1954, acute rheumatism (including rheumatic fever and chorea) was declared to be a notifiable disease under the Health Acts, 1937 to 1949, with respect to the whole of the State of Queensland. Notification of the disease will enable the extent of the problem to be determined.

#### ACKNOWLEDGMENTS.

I desire to express my thanks to all members of the staff for their unfailing and conscientious attention to duty. Thanks are also given to Government Departments, particularly to the Government Statistician (Mr. S. E. Solomon)

for his assistance in preparing the vital statistics section of this Report and in supplying other statistical details sought from time to time throughout the year, and to the Department of Public Works for their ready co-operation in complying with requests made to them.

The Queensland Health Education Council has again been most co-operative and the work carried out by this body is a most important part of the preventive medicine of this State.

Our relations with the British Medical Association have been most cordial and their co-operation is appreciated.

I would thank those of my colleagues who have during the past year given me the benefit of their experience, and would particularly mention Dr. O. S. Hirschfeld, Chancellor of the University of Queensland and Senior Physician of the Brisbane Hospital, and Dr. A. D. D. Pye, General Superintendent of the Brisbane Hospital.

## APPENDIX A.

## REPORT OF THE NATIONAL MOSQUITO CONTROL COMMITTEE FOR 1953-54.

The work of the Committee during the year has been concerned with identification of specimens, preparation of descriptions for publication, preparation of keys to species and further field work in south-eastern Queensland.

Identification included naming unidentified material and checking for other workers identifications of groups on which study is in progress here. Specimens were received from the following:—State Health Dept; Dr. Marshall Laird, R.N.Z.A.F., Fiji; Mr. A. K. O'Gower, School of Public Health and Tropical Medicine, Sydney; Dr. A. R. Woodhill, Dept. of Zoology, University of Sydney; Mr. S. H. Christian, Health Officer, Minj, New Guinea; Mr. G. W. Douglas, Dept. of Lands and Survey, Victoria; Messrs. F. N. Ratcliffe and E. W. Lines, Wild Life Survey Section, C.S.I.R.O.; Mr. A. Neboiss, National Museum, Melbourne; Dr. E. P. Hodgkin, Zoology Dept., University of Western Australia; Mr. J. L. Wassell, Coen. In addition useful small collections were received from several private collectors.

Valuable collections of identified material from the countries indicated were received from Dr. W. V. King (New Guinea), Dr. Leon Rosen (French Oceania), Dr. J. Muspratt (South Africa), Dr. J. N. Belkin (Solomon Island), Mr. N. V. Dobrotworsky (Victoria).

Specimens for study were received on loan from the United States National Museum, and the School of Public Health and Tropical Medicine, Sydney.

**Papers.**—Dr. E. N. Marks was co-author of the paper "Murray Valley Encephalitis: a survey of suspected mosquito vectors" by W. C Reeves, E. L. French, E. N. Marks, and N. E. Kent (1954, *Amer. J. Trop. Med. Hyg.* 3:147-159).

"A Review of the *Aedes scutellaris* subgroup with a study of variation in *Aedes pseudoscutellaris* (Theobald)" by E. N. Marks is in the press.

A paper on Australian species of *Aedes* (subgenus *Aedes*) is almost completed.

Preliminary work has been done for other papers.

**Research.**—The following are the principal findings during the year:—

(1) Extension to South Queensland of the known range of *Aedes purpureus* (found at Redbank Plains) and *Uranotaenia atra* (found at Lake Cootharaba). Both species were not previously known south of Townsville.

(2) *Aedes (Ochlerotatus) cunabulanus* larvae and pupae collected for the first time (Port Davey, Tasmania).

(3) Study of specimens of *Aedes* (subgenus *Ochlerotatus*), from many parts of Australia indicates that there are four species in Queensland still unnamed, as well as several from other States. A draft key to all known described and undescribed species of Australian *Ochlerotatus* was prepared to facilitate identification and assist field workers in obtaining further material.

(4) Further collections by Mr. J. L. Wassell in the Coen district added considerably to our knowledge of the biology of *Aedes culiciformis*, a pest species in parts of the Peninsula and Torres Strait.

(5) Study of specimens of *Aedes* (subgenus *Aedes*) in preparation of a paper on the Australian species has necessitated very detailed work and comparison with New Guinea species, in order to discover characters by which the larvae and pupae can be identified. This study has been facilitated by the loan of specimens from other institutions.

**Educational.**—At the request of the Australian Broadcasting Commission a wireless talk on Mosquitoes in the Cairns district was delivered. A field demonstration on method of collecting mosquitoes was given to Medical Science students.

